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P. & S. ANNIVERSARY SUPPLEMENT

THE ONE HUNDREDTH ANNIVERSARY OF THE FOUNDATION OF THE COLLEGE OF PHYSICIANS AND SURGEONS

THE College of Physicians and Surgeons was founded in 1807, its charter from the regents of the University of the State being dated March 12, and instruction to its first students having begun on November 10 of that year. In view of the one hundredth anniversary of the birth of the College, invitations to a celebration of the event were sent to all living alumni, now numbering more than four thousand. A goodly number of these accepted the invitations and were present during commencement week. With the desire to present to the visiting alumni an opportunity to see and inspect the modern methods of instruction, and the present equipment of the college, a series of medical and surgical clinics and demonstrations were prepared.

On Monday afternoon, June 10, there were held formal clinics as follows: At the Vanderbilt Clinic, in orthopedic surgery, by Professor Virgil P. Gibney; in neurology, by Professor M. Allen Starr; in dermatology, by Professor George H. Fox; and in laryngology, by Professor William K. Simpson. At the same time clinics were held at various hospitals: namely, at Roosevelt Hospital, in surgery, by Professor George E. Brewer, and in the practice of medicine, by Professor Frank W. Jackson; at the Ophthalmic and Aural Institute, in ophthalmology, by Professor Arnold Knapp; at the Hospital for the Ruptured and Crippled, in surgery, by Professors William T. Bull and William B. Coley; at the Sloane Maternity Hospital, in obstetrics, by Professor E. B. Cragin; at St. Luke's Hospital, in surgery, by Professor Robert Abbe; at the Manhattan Eye, Ear and Throat Hospital, by Professor Walter F. Chappell; at St. Mary's Free Hospital for Children, by Dr. Charles M. Dowd; and at the Babies' Hospital, in pediatrics, by Professor L. Emmett Holt.

During the forenoon of Tuesday, June 11, clinics were held at the Vanderbilt Clinic, in applied therapeutics, by Professor S. W. Lambert; at the New York Hospital, in surgery, by Professor Frank Hartley; at the Roosevelt Hospital, in surgery, by Professor Joseph A. Blake; and at the New York Eye and Ear Infirmary, in otology, by Professor Gorham Bacon. At the same time demonstrations were presented in certain of the laboratories as follows:

Physiology, by Professor R. Burton-Opitz and Dr. Haven Emerson: The action of the valves of the heart; the circulation of the blood in the capillaries; clinical methods of recording certain facts of circulation and respiration. Surgery, by Professor J. A. Blake and Dr. J. W. D. Maury: Recent studies at the surgical laboratory; the technique of undergraduate teaching in surgery. Biological chemistry, by Professor W. J. Gies and assistants: The action of enzymes; some of the chemical phases of the newer physiology of digestion. Pharmacology, by Dr. A. N. Richards: The action of certain common drugs upon the excised heart.

Laboratories and museums were open for inspection in the departments of anatomy, physiology, pathology, bacteriology, biological chemistry, pharmacology, pharmacy, and clinical pathology.

THE UNIVERSITY CONFERENCE

On Tuesday afternoon the University Conference was held at the College. In opening the conference President Butler, who presided, gave the following

ADDRESS OF WELCOME

Gentlemen:

In the celebration of the one-hundredth anniversary of the College, we come this afternoon to have the pleasure of listening to two important addresses, that will remind us of the history of the College and of the progress of the science and art which the College aims to teach.

My part is a very brief, but a very grateful one; namely, that of offering you a word of welcome on behalf of the College of Physicians and Surgeons. The passing of its hundredth anniversary is an act which has had no small significance in the history of this community and in the history of the teaching and study of medicine in these United States.

I fancy that the history of medicine and surgery in America would have to be quite differently written, if there were stricken from the rolls of membership of the profession all those names that, either as teachers or as students or as leaders in research, have been associated with the College of Physicians and Surgeons. Certainly it is a goodly company of distinguished men—men of science; men of public service; men of lofty professional aim and high professional attainment; a goodly company of such, that is borne upon the rolls of our College.

I welcome you, therefore, not only to the exercises of this afternoon, but to the contemplation of the interesting event which these exercises help to mark, and to a reflection upon the significance, for our American life, of this and sister institutions for the advancement of the science and art of medicine and surgery.

It is my personal misfortune that, at this commencement season, there are in our University undertakings so numerous, and so conflicting as to time and place, that my presence will presently be demanded elsewhere, and therefore I shall personally be unable to share in all the exercises of the afternoon. Nevertheless, I am glad of this opportunity to stand in your presence a brief moment and speak these words of welcome.

Before presenting to you the first speaker, I should like to announce that the College has recently been made the recipient of two portraits: one of Dr. Lefferts and one of Dr. Curtis. The portrait of Dr. Lefferts, generously given by himself, will be found hanging in the Vanderbilt Clinic. The portrait of Dr. Curtis, just completed, and given to the College by colleagues, former pupils and friends of our beloved professor of physiology, will be found ready for inspection in the faculty room.

It is that professor I now have the privilege of presenting to you as the first speaker of the afternoon, his subject being " The genesis of the College of Physicians and Surgeons in the City of New York." I present Dr. John G. Curtis, of the class of 1870.

Professor Curtis spoke as follows:

THE GENESIS OF THE COLLEGE OF PHYSICIANS AND SURGEONS IN THE CITY OF NEW YORK

Mr. President, fellow graduates, and fellow students: Our *alma mater,* whose jubilee we celebrate today, has not lacked historians. Dalton, Shrady, and Lee have written her life; have recounted the achievements of her teachers and graduates; have told of her growth, her tribulations, her prosperity; of the loyal zeal of her alumni, of the noble gifts of her benefactors, of her merger with Columbia University, of her incessant striving after better things.

In this, the year of her secular birthday, I purpose to tell the story of her birth and earliest days, and of what led up to them; a story without which her life cannot be fully understood, for her birth was not quite easy and her youth was stormy. If we would picture her as the goddess of wisdom, it must be with brandished spear:—her foes would have said, with gorgon's head and fringe of serpents!

The demand that medicine be better taught and better learned has always come from within the medical fraternity itself, and likewise the ceaseless ambitious effort to lift our art out of empiricism to be an applied science. Our school is the child of these cravings, born amid the restlessness of the Napoleonic wars; and my first task shall be to show you what was quickening and stirring in the years before 1807.

No man may practice medicine in New York today who has not been educated at a medical school, and received the degree of doctor of medicine. Therefore it is hard for men of today to realize that not only licensed practice but medical education went on in New York before a medical school existed in this or any other British colony in America. In New York of the twentieth century medicine is taught only to students of applied science; before the middle of the eighteenth century it was taught only to apprentices; and in the nineteenth century I was myself required by law to be at once student and apprentice in order to obtain my medical degree. This slow change of training must be understood if one would understand the evolution of the medical schools; for there was a time when any private practitioner, or club of such, might be the competitor of every medical school; when any medical school might be frequented by students who were not candidates for a degree at all, not even candidates for examination.

To New York belongs the honor of having passed the first law enacted in the American Colonies to regulate practice; and its preamble tersely sets forth why, as follows:

AN ACT
To regulate the Practice of Physick and Surgery in the City of New York
Passed on the 10th of June, 1760

Whereas, many ignorant and unskillful Persons in Physick and Surgery, in order to gain a subsistence do take upon themselves to administer Physick, and practice Surgery in the City of New York, to the endangering of the lives and limbs of their patients, and many poor and ignorant persons inhabiting the said city who have been persuaded to become their patients, have been great sufferers thereby: For preventing such Abuses for the future:

1. *Be it Enacted by his Honor the Lieut. Governor, the Council, and the General Assembly, and it is hereby Enacted by the Authority of the same,* That from and after the Publication of this Act no Person whatsoever shall practice as a physician or surgeon in the City of New York before he shall first have been examined in Physick or Surgery, and approved of, and admitted by one of his Majesty's Council, the Judges of the Supreme Court, the King's Attorney-General, and the Mayor of the City of New York for the time being, or by any three or more of them, taking to their Assistance for such Examination, such proper Person or Persons as they in their discretion shall think fit. And if a candidate, after due examination of his learning and skill in Physick and Surgery as aforesaid, shall be approved and admitted to the practice as a Physician and Surgeon, or both, the said Examiners or any three or more of them, shall give, under their hands and seals to the persons so admitted as aforesaid, a Testimonial of his Examination and Admission, and in the form following, to wit: [The form follows.] . . .

The Act concludes as follows:

Provided, That this Act shall not extend to any person or persons administering Physick, or practicing Surgery within the said City before the publication hereof; or to any Person having his Majesty's Commission, and employed in his Service as a Physician or Surgeon.

Observe that the Act applies only to the City of New York; this implying that elsewhere it was largely "Hobson's choice" between quacks and nobody.

There is no exemption for persons holding a formal medical degree, for no such degree had yet been granted in the Colonies, and not many had been obtained in Europe by Americans or brought over by Europeans. The foregoing act was the law in New York for thirty-two years, from 1760 to 1792. The study of medicine was as simple as in the time of Hippocrates, two thousand years before. What the eminent practitioner knew, he taught to his apprentice as best he might, then sent him forth to become a practitioner and teacher in his turn. But the American apprentice could at times, if rarely, receive such object-teaching as Cos and Cnidos had never given; for in 1750, ten years before any medical law existed, two practitioners, Peter Middleton, a Scotchman, and John Bard, an American of Huguenot descent, had injected the blood-vessels of an executed murderer and dissected his body for the instruction of their pupils in New York.

A far better time was not to be long deferred.

In 1761 John Bard, who had no degree, sent his son and apprentice, Samuel, abroad to win one—a youth nineteen years of age, who, sixty years later, was to die in office as president of the College of Physicians and Surgeons. Young Bard was captured at sea by a French privateer, but released after several months; whereupon he proceeded to his destination, Edinburgh, then of great and deserved fame as a seat of medical learning. Its University made Bard a doctor of medicine in 1765. At Edinburgh he did more than receive the best medical training of the time; he became a pioneer of the higher American medical education, of which the University of Edinburgh is unquestionably the mother. William Shippen, John Morgan, and Adam Kuhn, who were founders at Philadelphia of the first medical school established in the Colonies, all graduated in medicine at Edinburgh, Morgan only two years before Bard, who was his fellow-student there. In 1762, the year after Bard's arrival at Edinburgh, he wrote to his father of these men as follows:

> I wish with all my heart they were at New York, and that I might have a share amongst them, and assist in the founding of the first Medical College in America.

To this the master of apprentices shrewdly replied:

> I much approve of your emulation with respect to the establishment of a proper Medical Institution in this City, but I believe that it should be commenced by a public Hospital, which Dr. Tennent will inform you I had thoughts of beginning.

The fire, kindled in more places than one, flamed up quickly. In 1754 a royal charter had established in the city of New York a College, " called and known "—says the charter—" by the name of King's College;" until, on May 1, 1784, it was enacted that the said College " be forever hereafter called and known by the name of Columbia College." The King empowered the governors of King's College to give " such degree or degrees to any students of the said College or any other person or persons by them thought worthy thereof as are usually granted by any or either of our Universities or colleges in that part of our Kingdom of Great Britain, called England."

In 1763 James Jay, Doctor of Physick, and afterward knighted, who was agent in England for the governors of King's College, proposed to them the establishment of a school of medicine, which they approved of, but postponed for want of funds. Young Bard had been, for a while, a student in arts at King's College; and, in 1765, eleven years after the granting of the charter aforesaid, brought home to New York his Edinburgh diploma, having defended his Latin thesis on the effects of opium, and visited the London hospitals, and Leyden, still famous with the fame of Boerhaave.

Two years later, there was made in the minutes of the governors of King's College a memorable entry, under date of August 14, 1767, *viz.*:

> Two letters being presented to this Board, the one, dated the 4th instant, from Dr. Samuel Clossy, Dr. Peter Middleton, Dr. John Jones, Dr. James Smith, and Dr. Samuel Bard; the other, dated the 5th instant, from Dr. John V. B. Tennent, were read, their purport being a proposal as well for the honor and interest of this seminary as the common good of mankind, to institute a Medical School within this College, for instructing pupils in the

> most useful and necessary branches of medicine, and also an offer generously to give a course of lectures in the winter season in each of the following branches of that science, *viz.*:—Anatomy by Dr. Samuel Clossy, Physiology and Pathology by Dr. Peter Middleton; the theory and practice of physic by Dr. Samuel Bard; the theory of chirurgery with a course of operations upon the human body, by Dr. John Jones; chemistry by Dr. James Smith, with the materia medica and midwifery, by Dr. John V. Tennent.
>
> The board having taken the said letters into consideration, are of opinion that the establishment thereby proposed will not only (by promoting the true knowledge of medicine) tend to the honor and reputation of this college in particular, but be also a public benefit to society, do, therefore, unanimously resolve that the said Medical School be, and the same is hereby erected in the said college.

The minute adds that the governors " do unanimously elect and chuse " the said applicants to be professors.

Thus was constituted that memorable first faculty of which the professors of this school are the successors in fact and in name, as they are of the first faculty of the College of Physicians and Surgeons.

Peter Middleton wrote of his infant medical school: " Whatever merit there is in this Institution, it was first planned and concluded upon in a Medical Society now subsisting in this Place; *and may it long subsist.*" Of that medical society we may well hold the Medical Society of the County of New York to be the successor; and in this, forty years later, was " first planned and concluded " the organization of the College of Physicians and Surgeons. Middleton and his college were well qualified to inaugurate the higher medical education. We have heard of him already as one of the two makers of the first recorded dissection in New York, seventeen years before. He was a very learned man, M.D. of the Scotch University of Saint Andrews, and in 1770, while still professor, was made one of the governors of King's College. Clossy was an Irishman, fifty-two years old, M.D. of Trinity College, Dublin, in 1755, and a writer on pathology before he emigrated. He had already lectured on anatomy informally, and had taught natural philosophy in King's College. Bard, made professor of the practice of medicine at twenty-five, we know already. John Jones, the surgeon, was thirty-eight; an American, like Bard, but trained abroad, a pupil of William Hunter and Pott, of Petit, Le Cat and Le Dran. He had received his doctor's degree from the University of Rheims, in 1751. Of Tennent, American born and largely trained at home, little is recorded, except that he was made a fellow of the Royal Society of London while there in 1765. He died in 1770, three years after his appointment as professor, and Samuel Bard became his successor, adding to his own professorship that of midwifery, upon which he wrote a treatise later. James Smith, the fourth American of the six professors, was M.D. of Leyden. After three years of service, in 1770, he resigned his chair of chemistry and materia medica which the learned Middleton took over.

Thus we behold a Scot, an Irishman, and four Americans turning upon medical education in New York the lights of Paris, Rheims, London, Trinity, and St. Andrews; of Leyden and her daughter, Edinburgh; and of these Edinburgh was held, by common consent, to shine the brightest.

Nor was it a timid program upon which these lights were made to shine. One-half of the professors had been apprentices in America before they had become doctors in Europe, and their aim clearly was to set up a standard to which the more ambitious might rally, leaving the others to seek the simple license of the government, or to practice at will where no law could forbid them.

On September 21, 1767, there were published a preamble, the names and titles of the professors, and the following:

> The above gentlemen will begin their lectures the first Monday in November, and continue them regularly until the completion of the several courses, which it is supposed will be some Time in May, and Degrees in Physic will be conferred upon the following terms:
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> 1. Each Student shall be matriculated as in the *Universities* of *England.*
>
> 2. Such Students as have not taken a Degree in *Arts,* shall satisfy the Examiners, before their Admission to a *Degree* in *Physic,* that they have a compleat knowledge of, at least, the *Latin* language and of the necessary Branches of *Natural* Philosophy.
>
> 3. No Student shall be admitted to his Examination for a *Bachelor's degree* in less than three years after his matriculation, and having attended at least one compleat Course of Lectures

under each Professor; unless he can produce proper Certificates of his having served an Apprenticeship of Three Years to some reputable Practitioner, in which Case, he may be admitted to his Examination in *Two Years* from his Matriculation.

4. In one Year after having obtained a *Bachelor's Degree,* a student may be admitted to his Examination for the *Degree* of Doctor, provided he shall have previously attended two Courses of Lectures under each Professor, be of Twenty-two Years of Age, and have Published, and publickly defended, a Treatise upon some *Medical Subject.*

5. The Mode of Examination, both publick and private, shall be conformable to the Practice of the most *Celebrated Universities* of Europe.

6. Students from any reputable University may be admitted *ad eundem,* producing proper Certificates: and Graduates will be entitled to the same Privilege, on producing the like Certificates, and satisfying the Professors of their Medical Abilities.

It seems probable that the three years after matriculation were designed to include reading and practical work corresponding to the duties of an apprentice, otherwise attendance upon only one course of lectures in each of six subjects could never have filled the time. The following account is given by one of the first professors of the College of Physicians and Surgeons of his avocations as a private pupil of Samuel Bard, fourteen years after the founding of the King's College faculty of physic:

> I continued with Bard until August, 1784, when I went to France. During that time I served him faithfully. He taught me the art of putting up prescriptions in a neat and exact manner. He initiated me into the mysteries of chemistry, and made me intimately acquainted with the articles of the materia medica that entered into his prescriptions. By degrees the symptoms of diseases, and indications of cure, grew familiar by visiting his patients. I beheld the operation of remedies, and in due time I knew how to direct as well as to prepare them.
>
> Let no one of those who now hear me look with disdain upon the mortar and pestle; nor smile with contempt upon the dexterity of the apprentice who can duly apply to the disordered part of a patient's body a blistering plaster, prepared from the Gallipot and with the spatula, by his own hands.

But these immemorial Hippocratic ways of object teaching in medicine were not likely to satisfy men upon whom the clinical methods of Boerhaave, the Royal Infirmary of Edinburgh, Guy's and St. Thomas's Hospitals, the Hôtel Dieu, had made their mark. Dr. Peter Middleton, referring to the commencement at King's College in 1769, when were conferred the first degrees in medicine ever given in New York, writes as follows:

> Since this Lecture was read in the College Hall, the Necessity and Usefulness of a Public Infirmary have been so warmly and pathetically set forth in a Discourse delivered by Dr. Samuel Bard, at the Commencement in May last; that his Excellency, Sir Henry Moore, immediately set on foot a subscription for that Purpose; to which himself and most of the Gentlemen then present liberally contributed. His Excellency also recommended it in the most pressing manner to the Assembly of the Province as an object worthy of their attention, and the Corporation of the City have given us assurances of granting a very valuable and commodious lot of ground for erecting the building upon. So that there is now almost a certain prospect of this benevolent and humane foundation soon taking place. And as it is to be on the most Catholic and unexceptionable plan, it is hoped that it will meet with the countenance and encouragement of every compassionate and good member of society; whatever party or denomination he may choose to be distinguished by on other occasions.
>
> Dr. Bard's Discourse by particular desire has since been published.

As a result, the Royal Charter of 1771, under which the New York Hospital, long the only hospital in this city, continues to this day its work of mercy and science, begins with these words:

> Whereas our loving subjects, Peter Middleton, Sam'l Bard, and John Jones, of our City of New York, Physicians, by their humble petition presented unto our trusty and well-beloved Cadwallader Colden, Esq., our Lieutenant-Governor, and then our Commander-in Chief of our Province of New York and the territories depending thereon in America, and read in our Council for our said province, on the 9th day of March, which was in the year of our Lord 1770, did, among other things, in substance set forth, that there had been a subscription set on foot by them, for the purpose of erecting a Public Hospital in our said City of New York, and that sundry public spirited persons influenced by principles of benevolence, had liberally subscribed toward the same;—now we, etc., etc.

The names which head the long and distinguished list of the attending physicians and surgeons of the New York Hospital are those of Samuel Bard, Peter Middleton, John Jones and Malachi Treat, all appointed in 1774. But it was not simply as a humane physician that Bard had appealed to the rich and generous at home and in the mother country; it was also as a clinical teacher. Here are his own words, spoken on the occasion referred to, and published with the rest "by particular desire":

> Another argument, and that by no means the least for an Institution of this nature, is, that it affords the best and only means of properly instructing pupils in the practice of medicine; as far, therefore, as the breeding of good and able physicians, which in all countries and all times has been thought an object of the highest importance, deserves the consideration of the public, this institution must likewise claim its protection and encouragement.

Thus did the good work begin of the higher medical education. But the coveted clinical opportunities were to be long delayed. The foundation of the New York Hospital was laid in 1773, and, while the building was in progress, the first two physicians and two surgeons were appointed in 1774 as we have seen, three of the four being professors in the faculty of physic of King's College; but, in 1775, the unfinished building was destroyed by fire and a new beginning required to be made.

The graduates in medicine of King's College were few; a fact which need not surprise us in view of the standard adopted and, especially, in view of the preliminary education required. Doubtless the many preferred the easier way of simple apprenticeships, and, of the few, a large proportion would still begin, as well as end, their studies at Edinburgh, or elsewhere in Europe. From 1769 to 1774, inclusive, eleven candidates received the degree of bachelor of medicine at King's College, of whom two took the doctor's degree also, Robert Tucker on May 15, 1770, and Samuel Kissam on May 21, 1771. These two were the first doctors of medicine "in course" ever created in America. There was no public commencement of King's College in 1775, owing to the absence of the president; and we read in the general catalogue the brief statement that "in April 1776, at the request of the Committee of Safety, the College was prepared for the Continental troops; the students were dispersed and the books and apparatus removed to the City Hall." The president of King's College, an English divine from Oxford, had spoken out vigorously for the King, and gone home to a peaceful cure of souls. Clossy, the Irish anatomist, had spoken for the Americans, but had gone home also. Peter Middleton, the Scot, retired to Bermuda. Bard, an American but a convinced loyalist, finding the town too hot to hold him, withdrew into the country. The other American professor, Dr. John Jones, the surgeon, had sat him down beneath the gathering war clouds and published, in the autumn of 1775, " Plain precise practical remarks on the treatment of wounds and fractures," he having served with provincial troops in the French and Indian war. Jones, too, left the city to serve both in the New York legislature and the Continental Army. Thus, with the rest of King's College, the faculty of physic came to an end.

Presently, the defiance of the fourth of July was sharply answered by the defeat of the American Army on Long Island. Its skillful withdrawal across the East River was followed by the abandonment of the City of New York, which the King's forces entered in September 1776, and occupied for seven years. King's College became and remained a military hospital, and the New York Hospital, rebuilt after the fire, but vacant, was put to use by the British troops and their Hessian auxiliaries as a barrack and infirmary.

After the conclusion of peace, the city was evacuated by the British on November 25, 1783, and, at the next session of the legislature, an act was passed on May 1, 1784, to organize education within the State. What had been King's College received the name of Columbia, and was placed under the jurisdiction of a body styled the Regents of the University of the State of New York. The membership of this board was found to be too numerous, scattered, and changeable, to be effective; and, in 1787, the board was changed by law to the compact body which still exists under the original title, and which has played a great part in the history of the College of Physicians and Surgeons. Columbia was taken from the jurisdiction of the Regents to be governed by an independent board of trustees, under the royal charter, with certain necessary changes. The settlement of 1787 subsists, in its general features, to this day.

But the equipment of Columbia College had vanished; its property was unproductive; cash was badly lacking, and it is small wonder that the effective revival of the faculty of physic was deferred. Only one of the members of this faculty was left, Samuel Bard, who had returned to New York after its occupation by the King's forces, and had prospered as a practitioner; and his character was so high that his politics did not long stand in his light after the evacuation.

Nevertheless, in December, 1784, a faculty of physic of five members was appointed by the Regents for Columbia College; but, as a contemporary wrote, it was "little more than nominal." Presently, however, a new medical society was formed, and younger men made their mark, many of whom had taken medical degrees abroad, during or after the Revolution.

Professor David Hosack, whose botanical garden now borders on Fifth Avenue, and flowers not unprofitably with bricks and mortar, was a student of medicine at this time. He tells us:

> Medical instruction, however, shortly after this period in New York, was imparted by private teachers, the Faculty of medicine, which had existed prior to the Revolutionary war, not having yet been reorganized. Nevertheless, the pupils enjoyed opportunities of becoming well instructed in all the great practical branches of medical education. At that time courses of lectures were delivered by Dr. Richard Bayley and Dr. Wright Post, upon anatomy and surgery; Dr. Nicholas Romayne lectured upon the practice of physic, materia medica, botany and chemistry. Dr. Samuel Bard delivered an excellent practical course of instruction upon obstetrics and the diseases of women and children. At the same time, too, the Alms-House then located in the City of New York, was attended by Dr. Romayne, Dr. Benj. Kissam, and Dr. William Moore, and by Dr. Post as surgeon of the establishment. Under their united care, this infirmary was rendered a profitable school of medicine and surgery.
>
> In 1788 and 1789 I attended those several courses of instruction, and the lectures delivered on the cases occurring in the almshouse, when the last mentioned gentlemen were in attendance, who delivered a valuable course of clinical practice.

Nicholas Romayne, Samuel Bard, and Wright Post were destined to be, respectively, first, second, and third presidents of the College of Physicians and Surgeons. The Alms-House was the predecessor of Bellevue Hospital, though not on the same ground.

It will be remembered that the license to practice was still conferred simply after a State examination held by "a proper person or persons"; so that an association of able preceptors with good clinical opportunities could command a large following of pupils, though these could receive no degree. Even courses in practical anatomy were privately given; witness the "doctor's mob" of 1788, when it was necessary to use ball-cartridges against rioters excited to violence by the discovery of a dissection.

In the year 1791 the waters were very actively stirred. On January 3, the memorable event took place, at last, of the opening of the New York Hospital to patients. On January 11, recognition by the State of medical teachers who worked at the Alms-house and Bridewell,[1] was sought for by the future first president of the College of Physicians and Surgeons, thus:

> The memorial of Nicholas Romayne, Doctor of Physic respectfully showeth:—
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> That your memorialist, in the year one thousand seven hundred and eighty-seven, instituted a college in the City of New York, for teaching the various parts of science comprehended in a course of Medical education in the most respectable universities in Europe. That, from a commencement naturally small, and difficulties inseparable from the establishment of such institutions, he has now, after great labor and private sacrifices, brought his plans into full effect.

Romayne then describes the systematic didactic lectures and clinical teaching, and says:

> The peculiar excellence of a medical school must greatly depend upon its connection with a practical hospital—the want of which is lamented in seminaries for medical education in Europe, which have obtained degrees of celebrity. . . .
>
> Your memorialist therefore prays that the Regents of the University of the State of New York would be pleased to take the said college under their protection, and direct such measures with respect to it, as in their wisdom may tend to the important end of its institution.

On January 28, 1791, the Regents voted—"that this institution merits the protection of the University."

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[1] A prison.

But it was not to be plain sailing for Romayne and his associates; for, on February 15, 1791, the newly formed Medical Society of New York sent a strong formal remonstrance, duly signed and attested, to the Regents, which concludes as follows:

> A plan of medical arrangements is now before the legislature in which we repose a confidence of extensive utility: and we are therefore jealous of any institution calculated to interfere therewith, or to arrest its operations. Such measures have been also taken by this society to stimulate youth to industry and application as appear totally to preclude the present necessity of an incorporated college of Physicians.
>
> It is by no means intended that this memorial should, in any degree, discountenance a medical school. Individuals who with assiduity, prosecute this object, merit every encouragement. The field is open, and there is ample room for the Professors of Columbia College to display their active abilities.
>
> Your memorialists therefore pray that the application alluded to above may not be complied with; and your memorialists, as in duty bound, will ever pray, etc., etc.

Nothing daunted, Romayne returned to the charge, and his associates with him; for, under date of February 23, 1791, "the memorial of Sir James Jay, knight, Samuel Nicoll, William Moore, Nicholas Romayne, Benj. Kissam, Samuel L. Mitchill and Richard S. Kissam, Doctors of Physic, respectfully represents" many things, from which the following passages may be selected:

> Without stability, you gentlemen must plainly see, that the requisites essential to a complete system of medical instruction, such as a medical library, botanic garden, chemical laboratory and collections in anatomy and natural history will ever be imperfect.
>
> That your memorialists therefore request that they, together with Samuel Bard, John R. B. Rogers and Wm. Hammersley, Doctors of Physic, may be incorporated . . . with the powers, in respect of government and property, usually granted to any collegiate society; and with the privilege of recommending to the university [of the State of New York] for medical degrees, such of their students as, in the presence of the Regents, shall pass with credit the several examinations which are appointed in the most celebrated universities in Europe to ascertain the proficiency and merits of the candidates.
>
> That the plan which your memorialists have in contemplation is no other than what gave birth to the most celebrated school in

Europe. That it was only to the public-spirited exertions of a few young gentlemen, educated under the immortal Boerhaave, that the Medical School of Edinburgh owed its rise, as it now owes to their pupils, who succeeded them in teaching, the prominent rank it holds in the learned world. That, educated as your memorialists have been in that School, and that, honored as they have been with ample testimonies from thence of their diligence and proficiency, they flatter themselves that the Regents of the University of New York will not pay so ill a compliment to American genius as to suppose that what has been performed by other men, cannot be achieved by their own countrymen.

There is no mistaking the vigor and high spirit of this memorial; nor yet the fact that it stamps the school of Edinburgh as the chief historic source of inspiration for the higher medical training in New York. Of the ten men who either signed the memorial or are named in it, all are declared to have studied at Edinburgh; while seven at least had taken there the doctor's degree. Of these seven, two, Romayne and Bard, were destined to be presidents of the College of Physicians and Surgeons, and three, Romayne, Mitchill and Hammersley, to be professors thereat. Nicoll was an M.D. of King's College, New York, in 1774. Nor is it less significant of high training that the memorial emphatically sets forth the need, at a medical school, of object teaching in the fundamental sciences as well as in clinical medicine.

Events moved quickly.

On March 3, 1791, the Regents considered the two memorials of Romayne and his friends, and the remonstrance of the Medical Society of New York, and promptly voted an emphatic approval of "the establishment of a college of physicians." The Regents considered, however, that their authority did not extend to the chartering of professional schools, and requested their chancellor "to transmit a copy of the aforegoing proceedings to the honorable the legislature." The legislature was nothing loath, and, only three weeks later, on March 24, 1791, passed the act which causes us to be here happily met this day, entitled "An act to enable the Regents of the University to establish a College of Physicians and Surgeons within this State."

Why then, one may ask, did sixteen years elapse before the

Regents did actually establish a college of physicians and surgeons within this State? Because the memorials, the Regents' approval thereof, and the enabling act, had been followed by action on the part of the only corporation already authorized to confer the degree of M.D., the trustees of Columbia College.

It will be remembered that the Medical Society of New York had said, in its remonstrance of February 15, 1791: "The field is open, and there is ample room for the Professors of Columbia College to display therein their active abilities." If the proposals of the memorial had operated in this direction as a spur, its sharpness would not have been lessened by the fact that Romayne was a trustee of Columbia, named in the act which had created the board, and had previously been a member of the faculty of medicine appointed just after the peace; that Benjamin Kissam was one of the two members left of that faculty, and a trustee; that Moore was a trustee elected a year before; that Bard was a trustee and an original member of the faculty of medicine of King's College; that Nicoll was a doctor of physic of King's College in 1774; and that Sir James Jay had acted as agent in England for King's College before the Revolution. Six of the ten were in some sort Columbia men. One is not astonished, therefore, to read in the "History of Columbia University":

> In the latter part of April, 1791, the Trustees appointed a Committee to prepare a plan for teaching in the College the science of medicine, and to report it without delay. Soon afterward, on May 2, the Committee reported that it would be 'proper at present to have lectures in chemistry, anatomy and the practice of physic, read in Columbia College, and that Dr. Romayne (who already has a considerable number of pupils under his tuition and has been in the habit of teaching) be nominated lecturer in those branches.'

Dr. Romayne was, on May 5, appointed lecturer. A lecturer, it will be remembered, was but a temporary officer.

During the following winter decisive action was taken, as is shown by the following extract from the minutes of the Regents, dated February 15, 1792:

> The Vice-chancellor, from the Committee appointed to confer with the Committee appointed by the Trustees of Columbia College, on the subject of a medical institution, made a report in the following words, to wit—

"The Committee appointed to meet with a committee of the trustees of Columbia College, on the subject of a medical school, beg leave to report:

"That they met with the said Committee, and were informed by them, that the Trustees of said college not only had it in contemplation to institute a medical school, agreeably to their charter, as appeared by the official papers on the subject delivered into your board at their last meeting—but that they had the business much at heart, and were actually proceeding in it as much as possible—and that they did not doubt but that they would be able very shortly to effect it in such a manner as fully to answer all the important ends designed by the legislature in the law passed at their last session, empowering the Regents to erect such an institution.

"They therefore requested the Regents would suspend, for the present, any farther operations on the subject, until they shall see the effect of the measures Columbia College are taking in it, which they hoped would be to their entire satisfaction."

RESOLVED, That this board, agreeable to the request of the Trustees of Columbia College, by their committee, suspend, for the present, any farther operations respecting a medical institution, until they shall see the issue of that instituted by said college. And that the Committee appointed last Spring for preparing a charter for a medical school, under the law passed at the last session of the Legislature for this purpose be dismissed.

Little thought the Regents or the trustees of Columbia College who had prevailed with them that, in 1891, the centennial of the enabling act would pass unnoticed, but would nevertheless be marked by the union with Columbia College of a college of physicians and surgeons which the Regents would yet charter "after many days."

One of the signers of Romayne's memorial, Dr. Samuel L. Mitchill, wrote, years later: "The Legislature of the State on the 12th of April, 1792, made an appropriation of $1875 per annum, for five successive years, for the support of additional professorships in Columbia College. . . . About the same time the Medical Society solicited the trustees to reorganize the board of professors, the faculty appointed immediately after the peace having been little more than nominal."

It is clear, therefore, that the Medical Society of what was then the little city of New York had not been obstructive, but had preferred a faculty to be appointed under the charter of Columbia to one depending upon the board of Regents. A revived faculty of physic of Columbia College was appointed accordingly in 1792.

It would not be safe to assume that our revered predecessors were serenely indifferent to personal considerations; for their records show that our modern quarrels are mild compared to theirs, and that they were much our superiors in the art of expressing ferocity in stately diction. But if any of the promoters of the remonstrance had a grudge against the doctors of the Alms-House and Bridewell as a body, the grudge was not made good.

The new Columbia faculty of physic consisted of a dean and eight professors; and of these nine persons, six were signers of the memorial or had been named in it, and two more, Richard Bayley and his son-in-law, Wright Post, had been the two surgeons to the Alms-House and Bridewell of whom Hosack speaks. Not only had the Regents been prevailed upon to table the memorial for a new medical school, but nearly two-thirds of the able memorialists had sagaciously been called to constitute two-thirds of the new faculty of physic of Columbia. Bard, who was still only fifty years of age, was made dean, without a professorship; Rogers, Hammersley, Nicoll, Mitchill, and Richard S. Kissam, were made professors, five of the six being M.D.'s of Edinburgh, and one, Nicoll, of King's College in New York. Wright Post, the surgeon, had no degree, and I have seen no record of Bayley's. The ninth member of the faculty was William P. Smith, who died three years later.

It was in 1791 that the New York Hospital had received its very first patients. Of the eight new professors, five were appointed physicians and surgeons to the hospital in 1792, the year of the creation of the faculty, and the remaining three professors were so appointed within six years. Samuel Bard, the dean, had been titular physician to the hospital since 1774. But what of the remaining four memorialists, and what of the chief memorialist, the future first president of the College of Physicians and Surgeons, Nicholas Romayne?

Sir James Jay was fifty-nine years old, and perhaps signed the memorial more in the interest of his juniors than of himself. Benjamin Kissam had held since 1785, and still held, the title of professor of the institutes of medicine in Columbia. This he resigned in 1792 to make way for Hammersley. William Moore obtained a high professional position, and became an eminent obstetrician. He was a trustee of Columbia, and was, later, a trustee of the College of Physicians and Surgeons; but he did not become, in a formal way, a medical teacher.

Why Nicholas Romayne did not enter the Columbia faculty does not appear. He had been professor of the practice of medicine in the nominal faculty appointed in 1785. In 1787 he had been named trustee by the legislature, and in the same year had resigned his professorship to organize the private teaching which resulted in the memorials. In 1791 he alone had been appointed to a medical lectureship by his fellow trustees; but from this he retired in 1792, and his former chair of the practice of medicine was assigned to Samuel Nicoll, who was appointed in the same year physician to the New York Hospital, a post which was never held by Romayne. In 1793 he resigned as trustee of Columbia. There are records which show that, in 1792, Doctors Romayne, Moore, Mitchill, and R. S. Kissam had been appointed medical professors by a college in an adjoining State, which conferred a few medical degrees in that year and the next; but this was an ephemeral arrangement. Romayne was very well educated, was a good classical scholar, and spoke Dutch and French fluently. He had seen much of society and of Europe, and his return thence to New York during the British occupation had made quite a stir in the little city. He was an able man, and also clever and versatile, an excellent lecturer on many themes; nor was he unconscious of his own merits. He was rich, and indifferent to private practice, but hard-working and ambitious, a ready organizer. Yet there must have been something in his character which, from time to time, marred his relations with other men after his powers had been, for a season, in vigorous and useful play. After the new Columbia faculty had entered upon its career, Romayne relinquished teaching altogether and went to Europe. His medical library was bought by the New York Hospital in 1800.

In a little official pamphlet published in 1797, the work of the "faculty of physic" of Columbia is clearly described. There is a syllabus of courses of lectures by the five professors of which the faculty then consisted, and mention is made of chemical experiments and anatomical preparations. Three of the five professors being physicians, and one of them, surgeon, to the New York Hospital, great stress is laid upon formal and informal clinical teaching there. The official pamphlet says:

> The College and the Hospital of New York, as they are in perfect harmony, and co-operate in public spirited measures, may be considered fairly as forming, upon the whole, one of the best schools of physic and surgery that students can visit.

In order to graduate, a candidate is required to be twenty-one years of age and to have studied three years "in this or some other college or university"; and it is striking that there seems to be no exemption allowed, as at King's College in 1767, for time of study spent only with a practitioner. The candidate must have attended one complete course of lectures in each of a number of specified subjects, "and a course of clinical lectures in the hospital of this city." No evidence of preliminary education is officially demanded, this being another important difference from the program of 1767; but the examinations are well qualified to test at least the candidate's knowledge of his mother tongue, as well as of medicine. His "first examination," if unsuccessful, is confidential; if successful, the candidate must write an acceptable dissertation in Latin, French or English. He must then be examined again "before the faculty"; then write both an essay on an aphorism of Hippocrates and an answer to a "medical question," and be examined on what he has written; write a comment on two "histories of diseases," replying in writing to questions about them, and be examined on comment and reply; and, finally, print his dissertation and publicly defend it. He then receives the degree of doctor of medicine, that of bachelor being no more given.

In 1792 the license to practice medicine was granted by law to anyone who had studied with "a reputable physician" for three years, or, if a college graduate, for two years only, and had been examined before certain public officers by "any three respectable practitioners." In 1797, a new law swept away even this examination, and bestowed the license upon any one duly certified by a respectable physician or surgeon to have studied with him for four years and to be "well qualified." Up to 1797 no license at all had been required to practice in the State of New York outside the limits of the city; so that the act of 1797 marked an advance without the city, but a regression within it. Both acts expressly exempted from all their provisions those who possessed a degree in medicine. When the State held the barrier against quackery so low, in 1797, it is highly honorable that Columbia held it so high; but it is small wonder that there was no great concourse of students, even at the only school in the State which conferred the degree of doctor of physic, and that those who took this degree were always few, and, in some years, none. From 1793 to 1797, inclusive, only twelve doctors were created in course; none in the four years between 1797 and 1802; from 1802 to 1807, inclusive, only eleven; no more until 1810, then only one, and he the last.

It naturally followed upon the wretched law of license passed in 1797, that in a few years the patience of the reputable practitioners became exhausted, and that an agitation arose, and swiftly spread, to limit quackery, not only by restoring the examination for license, but by confiding the selection of examiners to the profession itself instead of to lay officials. Accordingly on April 4, 1806, a memorable act was passed by the legislature of New York. By this act the lawful practitioners of each county were authorized to meet and formally incorporate and organize themselves as a county medical society. The Medical Society of the State of New York was also created, to consist of delegates from the county societies, and to act in some sort as a central and coordinating body. Each county society was directed to appoint annually a board of from three to five censors, who should examine applicants for the license to practice, and report the results to the society, by a vote of which the license was to be given or withheld. No one might be licensed unless certified to have studied for three years "with one or more reputable practitioners." Provision was made for an appeal to the State society by a rejected applicant who should feel himself aggrieved, and for the recognition of qualifications from without the State. With these exceptions, no one might begin practice within the State who had not been licensed by a county medical society. An exception was not made as in the acts of 1792 and 1797 in favor of doctors of medicine. This action seems to have been deliberate; and may seem less surprising when we remember that the only authority within the State which could create doctors had created, on an average, less than two a year, for fourteen years. It was rightly felt that the passage of this act of 1806 was a great step forward, and there was much rejoicing, and a heightened consciousness of professional position and dignity on the part of every reputable medical man.

On July 1, 1806, one hundred and two practitioners met to organize the Medical Society of the County of New York; and whom do we find chosen chairman of the meeting, and then elected president for one year, but our old friend, Nicholas Romayne? When he had last stirred the waters, they had submerged him; this time, he was destined not only to strike out manfully, but to swim on the crest of the wave. There was organizing to be done; there were large affairs on hand; and Romayne evidently was held to be the man to deal with them.

On July 7, 1806, the five professors who constituted the Columbia faculty of physic were elected for one year to be the first board of censors of the New York County Medical Society. That must have been a sad day for embryo quacks.

And now we reach the year 1807, the events of which we are met to celebrate today. These events show us exactly how our *alma mater* was called into life; and that there was a time when the College of Physicians and Surgeons was only another name for the incorporated lawful practitioners of medicine of the City of New York.

At a meeting of the New York County Medical Society held on February 19, 1807, it fell, by a dramatic chance, to James Smith, M.D. of the University of Leyden, who had been appointed in 1767 to the faculty of physic of King's College and had served there for three years—it fell to this veteran from two historic schools to give to us all, if I may say so, the laying on of hands, by offering the prosaic resolution with which begins the following transcript from the minutes:

> Resolved, that this Society apply by memorial to the Honourable, the Legislature of this State, to incorporate this society into a College of Physicians and Surgeons, as a part of the University of this State; and that also a memorial be presented to the Regents requesting them to aid this Society in their views to be incorporated as a College of Physicians and Surgeons.

On the question being taken, it was carried in the affirmative.

A motion was made to postpone the application to the Honourable, the Legislature, to a future meeting. Upon this question being taken, it was carried in the negative.

A motion was then made that the society do adjourn, and, the question being put, it was carried in the negative.

It is clear from the foregoing that Dr. Smith's resolution of 1807, like the memorials of 1791, was to encounter opposition from the beginning. It is equally clear that the friends of the resolution had come to the meeting fully prepared to press their scheme to a conclusion at once; for the minutes say: "The following draft of a memorial to the Honourable, the Legislature, was read to the Society." The memorial is wordy and vague, and does not, on its face, indicate the creation of a teaching body, except as implied in the request to become part of the university of the State. The following are the most essential words:

> The Society are humbly of opinion their usefulness would be extended in promoting the public good and the improvement of their profession, were they incorporated under the direction, inspection, and patronage of the Regents of the State as a College of Physicians and Surgeons.

One unimportant section of the memorial having been stricken out, the rest was approved as read, as was also a separate, shorter memorial to the Regents. Both papers were ordered engrossed, sealed, certified, and transmitted, and the Society adjourned. At the same meeting Dr. Romayne, the president, had been elected delegate to the State society. He went to Albany, taking the memorials with him, and there he, or his constituents, found such favor in the eyes of the delegates from the State at large that they elected him to be the first president of the State society.

At the capital the campaign developed itself. On the third of March, 1807, the Regents received and referred to a committee the memorial from New York, a communication in its support from Dr. Romayne as president, and a remonstrance against the proposed incorporation signed by forty-nine members of the Medical Society of the County of New York. In the following passages of Romayne's communication the vagueness of the Society's memorial is not found. He says:

> That the said society is, with the other medical societies of the State, directed by law to examine students of medicine, and to license such as may be qualified to practice as physicians and surgeons or both: that the said society being impressed with the importance to the public that a system of medical education should be instituted under their inspection, have directed your memorialist to present to your Honourable body, in their behalf, their memorial respecting the same, to the end that, by the aid of your Honourable Board, the members of said society may be incorporated by the Honourable, the Legislature, into a College of Physicians and Surgeons, under the direction, inspection, and patronage of the Regents of the University, and which memorial your memorialist has the honor to present herewith. . . .
>
> Your memorialist begs leave to state to your Honourable Board, that under the ordinary circumstances of exercising the medical profession, it is difficult for any physician or surgeon in full practice to be a medical teacher, as the branches of anatomy, chemistry, botany, and other branches of medicine, require much preparation, study, and time. Your memorialist also begs leave to state, that every physician and surgeon in the ordinary practice of his profession, may be rendered more useful to the community by occasionally visiting a school of medical information, when combining an increase of knowledge with the inspection of the duties of the teachers. Your memorialist therefore hopes that by the judicious arrangement of the Honourable, the Legislature, investing the Regents of the University with the powers of appointing medical professors and the members of the college, of inspectors of the performance of their duties, a school of medicine may be established in the city of New York, not only honourable to the State, but of national importance, and which may contribute to diffuse among mankind the blessings of science.

It is seldom that one reads a passage in which the evolution of the medical school out of masters of apprentices more clearly appears.

As to the remonstrants, they fall to with great vigor, saying that they view with extreme concern, a petition now presented, or about to be presented, to your honourable body from the society aforesaid, soliciting an act of incorporation as a college of physicians, a measure which they conceive to be not only altogether useless and unnecessary, but in every respect incompatible with the interest of the existing medical institutions of this State. They forbear to enter into a particular detail of the manner in which this petition passed their body, but they conceive it to be their bounden duty explicitly to declare, that although that petition appears as their official act, yet that it cannot in justice be considered as the free interpretation of the wishes of the society, inasmuch as the said society was specially convened upon a subject totally irrelevant to the object of their present petition, advantage was taken of the small number of members collected, every necessary document (by previous arrangement) was prepared, and the object of the petition carefully concealed from a great portion of the members before they met. It was hastily passed through the society, without sufficient deliberation, contrary to the established usages of all incorporations, and is now made to appear before you, as their act, after mature consideration.

They in an especial manner remonstrate against the impropriety of unnecessarily creating more colleges, because a medical college, as part of the general establishment of Columbia College, has existed in this city for many years, where all the branches of medicine are faithfully and diligently taught by public professors. Your memorialists are informed that an understanding exists between the Regents of the University and the trustees of Columbia College, that no additional medical school shall at any time be sanctioned by the Regents, while the duties annexed to the professorates of medicine in Columbia College are fulfilled.

The Regents made short work of the remonstrance, and took no notice of the special objection made to chartering a second medical school in the city of New York. There is ample testimony to the eminence and zeal of the professors of the school which existed there already, and the very small number of degrees which it conferred should rather do it credit than discredit in our eyes; but a board of American laymen may very probably have had a high appreciation of what are often called "results."

On the tenth of March, the committee reported to the Regents:

That they had met together and maturely considered, as well the application for the instituting by the Regents of the University a college of physicians and surgeons in the city of New York, as the remonstrance against the same, and they are unanimously of the opinion that by granting the prayer of the memorialists, medical science will be promoted; they therefore recommend, that a college of physicians and surgeons be established in the city of New York, pursuant to the power vested in the Regents of the University, by the statute of the 24th of March 1791.

Thereupon,

Resolved, That the said report be accepted, and that the secretary prepare an instrument in writing for incorporating the said college by the name and description of "the College of Physicians and Surgeons in the City of New York."

The twelfth of March, 1807, is the very birthday of our *alma mater*. On that day the draft of the charter was read and approved, and ordered to be engrossed, sealed and signed by the chancellor.

It is gratifying to read the minutes of an extraordinary meeting of the Medical Society of the County of New York held on the twenty-third day of March, 1807. When the minutes of the last meeting had been read, a resolution was moved in the words following:

Resolved, That the part of the minutes which relates to the application to the Legislature and the Regents of the University of the State praying that the Medical Society of the County and City of New York be incorporated as a College of Physicians and Surgeons be expunged.

The minutes continue:

The same being taken into consideration, the question was taken, when the said resolution was rejected. It was then

Resolved, That the Society does approve the minutes as read by the Secretary.

Thus did the Society itself, at a meeting specially called, and which took up no other business than that of the College of Physicians and Surgeons, make short work of the remonstrants, as the Regents had done already. The president's report and the charter itself were then read and ordered printed, and the Society adjourned.

The charter, granted and accepted, incorporated the members of the Medical Society of the County of New York as trustees of the College of Physicians and Surgeons, with power to elect annually a president and other executive officers, and with the duty of attending to the business affairs of the institution and recommending candidates for the medical degree to the Regents, who reserved to themselves the conferring of degrees and the appointing of professors from among the trustees. The trustees, however, were empowered to appoint lecturers to serve till the pleasure of the Regents should be known. The Regents also reserved to themselves the power to alter the charter in any way at any time.

On the third day of April, 1807, the Regents appointed the professors; and on the fifth of May the trustees met to the number of sixty-three, organized, and elected Nicholas Romayne the first president of the College. It is easy to see, one hundred years later, that such a charter could not last; that the authority created by the Regents was fatally transient and scattered; that they had erred, as the legislature had erred when it gave to the Regents themselves their first constitution in 1784.

The College opened, however, and lectures began on November 10, 1807. There were fifty-three students in attendance, and a learned address was made by the president.

The Regents had appointed five professors; and the trustees had appointed some of these to lecture on additional subjects that the instruction might be sufficiently complete.

The appointments were as follows:

The president, Nicholas Romayne, M.D., Edinburgh, 1780; lecturer on anatomy.

Samuel L. Mitchill, M.D., Edinburgh, 1786; physician to the New York Hospital, professor of chemistry.

David Hosack, M.D., Edinburgh; physician to the New York Hospital, professor of materia medica and botany, and lecturer on surgery and midwifery.

Archibald Bruce, M.D., Edinburgh, 1800; professor of mineralogy.

Edward Miller, M.D., University of Pennsylvania, 1789; physician to the New York Hospital, professor of the practice of physic and clinical medicine.

Benjamin De Witt, M.D., University of Pennsylvania, 1797; professor of the institutes of medicine, and lecturer on chemistry.

John Augustine Smith, M.R.C.S., London; adjunct lecturer on anatomy.

Of the six doctors of medicine, four were of the University of Edinburgh, and two of the University of Pennsylvania; of the seven members of the teaching force, three were physicians to the New York Hospital, and two more became so within two years.

Dr. Samuel L. Mitchill was a remarkable character, very able, and considered to be an encyclopedia of medicine and science. He had signed the memorial of 1791, and in 1792 had been appointed professor of natural history and chemistry in the Columbia faculty, but had resigned in 1802, having become a member of the House of Representatives. He was United States Senator from New York when appointed a professor in the College of Physicians and Surgeons.

Dr. De Witt was made lecturer to deliver the course on chemistry during Mitchill's absence, and, in 1808, became professor of chemistry, Dr. Mitchill taking up natural history and botany.

Dr. Hosack accepted a chair at the College of Physicians and Surgeons while still professor of botany and materia medica in the Columbia faculty; but, in 1808, preferred to retain his chair at Columbia, having found botany and materia medica the only themes permanently open to him at the new school. Bruce, therefore, took over materia medica in 1808, while Smith became professor of anatomy and surgery, and Romayne, the president, professor of the institutes of medicine.

In 1808 a new professor was appointed, of obstetrics and the diseases of women and children, Dr. Wm. James Macneven, an Irish exile, M.D., of the University of Vienna in 1783.

At our school in its earliest days, as at its predecessor, great importance was attached to clinical teaching at the New York Hospital; chemistry was taught demonstratively; and legal provision already existed for dissection, though to nothing like the same extent as later. The subjects were obtained from the prison.

As to the curriculum, and the requirements for graduation, the early announcements were meager, as was, perhaps, natural in the nascent stage of the institution, when its plant was defective and its procedures tentative. In a circular dated July 15, 1808, we read:

> The lectures on the several branches will commence annually on the first Monday in November, and be continued for at least four months. During this period also clinical lectures will be given, on the cases occurring in the New York Hospital by Dr. Miller, and on those in the Alms-House by Dr. Macneven, whose practice respectively in these institutions the students will have the privilege of attending.
>
> Courses of private lectures will likewise be given at the same time by the Professors of Anatomy and Surgery and of Chemistry to such as choose to join their private classes. From the one the student will derive the advantage of acquiring practical knowledge in anatomy and surgery; and from the other, of becoming experimentally conversant with the various operations of chemistry.

The circular also refers to the College having been "assiduous in forming an Anatomical Museum, a Chemical Laboratory, a Medical Library, Cabinets of Mineralogy and Natural History, and a commodious building for the accommodation of the Professors and Students."

Finally we read this:

> Gentlemen who shall have attended during two sessions of the College, and passed the usual examinations to the satisfaction of the professors, will receive degrees in Medicine from the Regents of the University, of which the Governor of the State is always ex-officio President.

No dissertation is specified in the circular, though at a later time this was expressly required. No mention is made of the age of twenty-one years as a prerequisite for graduation, nor of a three years' term of study; perhaps because this last was a prerequisite for the examination for license. Two courses of lectures are required, however, instead of one.

In March, 1809, a special exemption was accorded by law to graduates of the College of Physicians and Surgeons, two years before its first degrees were conferred; for it was enacted that the degree of doctor of medicine granted by the Regents of the University should allow the person who had received it to practice physic and surgery, any law to the contrary notwithstanding. This act conferred a valuable but very dangerous gift.

So a beginning had been made. But cash was scanty, and the charter threatened to cause trouble. The legislature made appropriations, and Dr. Romayne and other professors advanced money to meet the first difficulty. To meet the second, the Regents, on the third of March, 1808, acceded to a request of the trustees, and amended the charter, in order to promote the "stability and usefulness" of the college. The right to elect the president and other executive officers was taken from the trustees to be exercised by the Regents themselves; and it was ordained, in substance, that no member of the County Medical Society should become a trustee of the college who should not first have agreed in writing to attend to its affairs. The quorum of the trustees was fixed at thirteen. These changes were timely; for a month after they had been made the New York County Society felt its dignity outraged by proceedings in which were involved the College, the State Medical Society, and Dr. Romayne, the president of both. So the County Society turned upon Romayne and the State Society, and rent them sore.

Within the College itself troubles arose. We are mysteriously told that there were "dissensions." Fifty-three students had entered when the college first opened its doors in 1807. In 1808 there entered seventy-two, and in 1809 seventy-three; but we are told that, in 1810, "the number was considerably reduced." All this perturbed the Regents, who took a great interest in the medical school which they had created, and over which they were supreme. Its professors enjoyed the official style of "Professors in the University of the State of New York for the College of Physicians and Surgeons." The College itself came to be called "the State College"; and the Regents of the State University appointed a committee to look into the troubles of their medical school. On April 1, 1811, the committee recommended heroic treatment; a capital surgical operation, to be followed at once by a "building up of the system." Although the Regents had created a second medical school in New York, it had been borne in upon them that it would be better if there were only one school and that, naturally, their own. From the older one only one single doctor of medicine had graduated during the previous four years. We read in the report of the Committee:

> The Committee have forborne to trace and bring to light the conduct of individuals, because in their opinion it would be both

useless and invidious. Propositions have been made to the Committee to remodel the institution, with a view of rendering its operation more simple, and of introducing into it several of the professors of the medical school in Columbia College, and other eminent and distinguished individuals; this proposition has been viewed by the Committee in the most favourable light, as it may extinguish the feuds existing among the present professors of the College of Physicians and Surgeons, and as it will, in all probability, be the means of uniting the two schools. The latter appears an object of the first importance, inasmuch as it will assemble, in one institution a splendid collection of medical and surgical talents, and as it cannot fail to merit and receive the patronage and encouragement of the legislature.

To compass these ends the committee proposed, and the Regents adopted, the following simple and effective means. They removed from office, as trustees, all the members of the County Medical Society who had qualified as such; they removed the president and all the executive officers, they made one of their professors vice-president without a chair, and appointed a faculty to consist of five of their remaining six professors and four of the six professors who then constituted the Columbia faculty of physic, with the addition of a former professor at Columbia who had resigned three years before. That one of the Regents' own professors whom the Regents did not reappoint was the deposed president, Nicholas Romayne. In carrying into effect " the new arrangement," as the Regents styled this heroic measure, they formally requested the cooperation of the trustees of Columbia College. The " arrangement " did finally effect its purpose of " uniting the two schools," as the Regents had fondly hoped; but not till two years later. Dr. Hosack, physician to the New York Hospital, was the only Columbia professor invited who at once joined the new faculty of which he had already been a member in 1807–08. The other three declined to do so, stating that the " arrangement " had been made " without their knowledge, approbation or consent." Dr. Rodgers, the ex-professor, also declined the offer of the Regents. Two professors of the College of Physicians and Surgeons itself, Drs. Bruce and Miller, both physicians to the New York Hospital, declined to enter the remodeled faculty, and went out of office with Romayne; the situation not being clarified by the fact that the college was in debt to these three gentlemen. So the Regents' surgery proved, for the time being, to be rather in the nature of an amputation, whereby three members had been removed to offset the gain of one.

Dr. Miller died in the following year, 1812. Doctors Romayne and Bruce promptly associated able teachers with themselves and opened, in the autumn of 1811, a school which they styled the "Medical Institution of the State of New York." This, some years later, sought to obtain a charter, failed to do so, and perished. Romayne himself died in 1817, at the age of sixty-one. Eight years after his death, one of his former associates referred to him as "a man who for vigorous intellect has not left his equal among us."

The first Commencement of the College of Physicians and Surgeons was held with some ceremony very shortly after these changes had taken place, on May 15, 1811, when eight candidates received the degree of doctor of medicine. The new president of the College, who spoke the Latin formula on this occasion, and administered the Hippocratic oath, was no other than Samuel Bard, whom the Regents had called, at the age of sixty-nine, to succeed Romayne. Bard was in retirement in the country, devoted to the breeding of merino sheep, and had stipulated that he should not be called upon for active service; but the name of the first professor of the practice of physic at Kings College, of the founder of the New York Hospital, of the physician of President Washington, was rightly held to be of great value to the young and disturbed institution; and the admirable address which Bard delivered to the students at the opening of the session of 1811–12 shows that the veteran's grasp of the great principles of medical education was as firm as ever. He remained president for ten years, dying in office in 1821.

The constitution of the College of Physicians and Surgeons was profoundly changed by the charter of 1811 and by that of 1812, which codified and somewhat altered its predecessors. By these instruments the board of trustees, instead of consisting of all the practitioners of New York who chose to enter it, was made to consist of not more than twenty-five persons appointed by the Regents, which persons might be either physicians or laymen. Only thirteen were appointed at first; for many years many seats remained unfilled; the quorum for ordinary business was only five; and the professors were members of the board, of which they formed a majority. In the hands of the Regents the administrative pendulum had swung violently in the direction of a "pocket borough," and thereby the seeds of future violent disturbance had been sown. But, in 1813, the drastic ordinances of 1811 effected their desired result. The three Columbia professors, Post, Hammersley, and Stringham, who had refused to join the College of Physicians and Surgeons in 1811, now agreed to do so, and, with them, their colleagues, Osborn and Valentine Mott, who later won such fame in surgery. This union was brought about with the consent of the trustees of Columbia, and their faculty of physic formally ceased to exist.

The faculty which resulted from this union was as follows:

Samuel Bard, M.D., Edinburgh, 1765; president.

Benjamin De Witt, M.D., University of Pennsylvania, 1797; vice-president and professor of natural philosophy.

William J. Macneven, M.D., Vienna, 1783; professor of chemistry.

Samuel L. Mitchill, M.D., Edinburgh, 1786; physician to the New York Hospital, professor of natural history and botany.

John Augustine Smith, M.R.C.S., 1805, M.D. (Hon.), University of the State of New York, 1812; Wright Post, M.D. (Hon.), University of the State of New York, 1814; surgeon to the New York Hospital; joint professors of anatomy, physiology, and surgery.

David Hosack, M.D., Edinburgh; physician to the New York Hospital, professor of the theory and practice of physic.

William Hammersley, M.D., Edinburgh; physician to the New York Hospital, professor of clinical medicine.

John C. Osborn, M.D. (Hon.), University of the State of New York, 1814; physician to the New York Hospital, professor of obstetrics and the diseases of women and children.

James S. Stringham, M.D., Edinburgh, 1799; physician to the New York Hospital, professor of legal medicine.

Valentine Mott, M.D., Columbia College, 1806; professor of the principles and practice of surgery.

John W. Francis, M.D., College of Physicians and Surgeons, 1811; registrar, and professor of materia medica. Dr. Francis was a member of the first class which ever graduated at our school.

In January, 1814, the new appointments were formally confirmed by the Regents, as the result of the following communication from their committee:

To the Regents of the University of the State of New York.

The Regents of the University having authorized the members of that Board residing in the City of New York to effect an union between the Coll. of Phys. & Surgs and the Faculty of Phys. attached to Columbia College, the Underwritten have the honor to report that this object so important to medical science has been accomplished with their approbation, and satisfactorily to all concernd.

The increased number of the Students and the flourishing condition of the College already exhibit the benefits which such an auspicious arrangement was calculated to produce. It was necessary to extend the list of Professors in order to effect this coalition and as this has of course produced a correspondent combination of information and talents the undersigned earnestly recommend it to the Regents to sanction the arrangement without any alteration. To omit any of the Professors that have been nominated would have an invidious appearance and might reintroduce that spirit of discord which is now happily extinguished.

And the Underwritten would further respectfully suggest to the Board the expediency of not making any new appointment or arrangements in relation to this Establishment unless renderd absolutely necessary. The College is now in a flourishing way and the Regents having done all that duty and the interests of the Institution required, any further interposition might have a tendency to check instead of accelerating its prosperity.

Dated 29 Jan. 1814.
De Witt Clinton
M. Clarkson
Henry Rutgers

The childhood of our *alma mater* came to an end with this union of the faculties of medicine of Columbia College and of the College of Physicians and Surgeons in 1813–14, which so happily foreshadowed the alliance of the two institutions in 1860, and their complete and indissoluble union in 1891. Our *alma mater* had become the only chartered school of medicine in the City of New York. Her youth was yet to be troubled with eruptive and convulsive disorders, but her progress to maturity was assured. Of her maturity we who are here present are the sons. Let it be our happiness and pride to see to it that the sons whom she shall bear when we are gone shall find her stronger and even more worthy of fame than we have found her!

At the conclusion of Dr. Curtis's address, Professor S. W. Lambert, dean of the College, introduced Dr. William H. Welch, of the class of 1875, professor of pathology in Johns Hopkins University, who delivered the following address:

SOME OF THE CONDITIONS WHICH HAVE INFLUENCED THE DEVELOPMENT OF AMERICAN MEDICINE, ESPECIALLY DURING THE LAST CENTURY

I esteem it a privilege and an honor, upon this auspicious occasion, in behalf of my fellow alumni, to bring our affectionate greetings and hearty felicitations to our *alma mater* in medicine upon the completion of a century of unbroken, vigorous life and of memorable service in medical education. As I read our history we could, with propriety, commemorate a much longer existence by virtue of the union with Columbia University and as the direct descendants of the medical school of Kings College, founded in 1767, but we need to unravel no tangled skeins of history—how tangled we have just heard from Dr. Curtis—in celebrating the centennial anniversary of the institution which most of the graduates know best under the name of the College of Physicians and Surgeons of New York.

The thoughts which this anniversary brings first to the mind of each of us who are graduates of this college, doubtless relate to his own personal experiences when a student within its walls. The reminiscences of a very few go back to the Crosby Street days, of many to the Twenty-third Street School, and of still more to the College in its present location. To me and to many others of the days of the seventies come back in vivid memory the old Twenty-third Street building, even then outgrown, and our teachers, Parker, Clark, Dalton, Detmold, Markoe, St. John, Thomas, Sands, Sabine, Draper, Agnew, Seguin, Otis, among those who are gone, and of those fortunately with us, Jacobi, Edward Curtis, McLane, Chandler, Francis Delafield, John Curtis, McBurney, Weir and Lefferts, all of whom we hold in grateful remembrance. Among these are names of many illustrious in the history of the college and of American medicine—Willard Parker, for over forty years a notable figure in the college and the city; Alonzo Clark, the year of whose birth is also that of the college, the leading consultant of the city, a charming, polished and withal forceful lecturer; John Dalton, the first of American physiologists, the embodiment of scientific spirit and method, a direct, clear and most attractive teacher; Gaillard Thomas, gifted as man and teacher, widely influential as an author and practitioner and honored in our profession; Henry B. Sands, full of enthusiasm and energy, a distinguished operator and contributor to surgery; Cornelius R. Agnew, the accomplished ophthalmologist and leader in works of public benevolence; and others whose names might, with equal propriety, be signaled out from this roll of honor; but they are all familiar to you.

Fortunate circumstances brought me then, and later, especially, under the personal influence of Jacobi, Thomas, Seguin, Sabine and Francis Delafield, from whom I received an abiding stimulus and inspiration. The college work which profited me most and which I recall with the greatest satisfaction was that of prosector to the chair of anatomy which brought me into close association with Sabine and the demonstrators of anatomy, John Curtis and McBurney, and which afforded excellent practical training. Francis Delafield and Edward Janeway, a distinguished alumnus of this college, awakened at this time my interest in pathological anatomy. The preparation of my graduating thesis, under the advice of Sabine, was a valuable educational task, which familiarized me with medical bibliography.

One can decry the system of those days—the inadequate preliminary requirements, the short courses, the faulty arrangement of the curriculum, the dominance of the didactic lecture, the meager appliances for demonstrative and practical instruction—but the results were better than the system. The College of Physicians and Surgeons stood then, as it has always stood, in the front rank of American medical schools. Our teachers were men of fine character, devoted to the duties of their chairs, they inspired us with enthusiasm, interest in our studies and hard work, and they imparted to us sound traditions of our profession; nor did they send us forth so utterly ignorant and unfitted for professional work as those born of the present, greatly improved methods of training and opportunities for practical study are sometimes wont to suppose. Clinical and demonstrative teaching for undergraduates already existed and was rapidly expanding in those days, but the experience of a hospital interneship was then, as it still is, almost a necessity to complete the education of a physician before beginning practice. Of laboratory training there was none.

We all rejoice in the splendid, material advancement of the college in the last two decades, in the integral union with Columbia University, in the generous gifts of benefactors, in this fine home, in the excellent laboratories, in the Sloane Maternity Hospital, in the Vanderbilt Clinic, and in the work of teachers and of taught under these improved conditions and enlarged resources, but many of us cherish fond memories of simpler days, of teachers as able and devoted as their worthy successors, and of fellow students as zealous as those of the present day.

While I could not refrain from recalling these student days and paying grateful homage to my teachers, I realize that this occasion calls for a broader outlook than merely personal reminiscences and that matters pertaining to the history of the college belong to the theme of Dr. Curtis's address. I trust that I shall not encroach upon his territory in asking your attention to a consideration, necessarily brief and inadequate, of some of the conditions of American medicine at the time of the foundation of this college and shortly preceding it, and of some of the developments since that period.

The century of life of this college comprises in time more than one third of the medical history of this country and in amount of progress vastly more than this fraction. The conditions which influenced the development of American medicine before the nineteenth century were mainly such as were determined by the material, political and social circumstances of the country.

The small beginnings of our medical annals belong to that splendid century which saw the birth of experimental science, the century of Shakspere, Milton and Molière in literature, of Bacon, Descartes and Locke in philosophy, of Kepler, Galileo and Newton in physical science, and of Harvey, Malpighi and Sydenham in medicine. What could seem more remote, more untouched by these brilliant achievements than the Thomas Wottons and Samuel

Fullers and the little band of their successors who ministered in their feeble way to the bodily ills of the settlers scattered sparsely along the Atlantic coast! Yet we do well to cherish the memories of our medical pioneers, negligible though they be in the world's history of medicine, for their story has the interest which attaches to the origin of things which have become important.

It is pleasing to find that the leading cultivators of the natural history of the new world during the colonial period were physicians and that such men as Clayton, Mitchill, Colden, Garden, and of a somewhat later period, Hosack, Barton, Wistar and Torrey have been commemorated by genera of plants named after them. From this interest came a number of contributions to the vegetable materia medica. Here it may be recalled that in its early days there were connected as teachers with the College of Physicians and Surgeons, Samuel Latham Mitchill, David Hosack and John Torrey, with whom was associated as pupil and collaborator, Asa Gray, all names of importance in the botanical history of this country. The story of Hosack's Elgin Botanic Garden is a familiar one.

In illustration of the influence which the study of prevailing epidemic disease has always exerted upon the development of medicine, it is interesting to note that the only substantial, permanent contributions to medical knowledge, made by American physicians before the end of the eighteenth century, pertained to the three great epidemic diseases which in succession sorely afflicted the colonies, namely: smallpox, by Zabdiel Boylston; diphtheria, by Peter Middleton, Richard Bayley, and, above all, Samuel Bard; and yellow fever, by Lining, Matthew Carey, Currie, Rush and others. William Currie's "Historical account of the climates and diseases of the United States" and Noah Webster's "Brief history of epidemic and pestilential diseases" are of permanent value and were both published in this country before the end of the eighteenth century.

While the first American medical classic is John Morgan's "Discourse on the institution of medical schools in America," delivered in 1765, there appeared only six years later the second one—Samuel Bard's "Enquiry into the nature, cause and cure of *angina suffocativa* or sore throat distemper, as it is commonly called by the inhabitants of this city and colony"—deserving a place beside Elisha North's treatise on spotted fever (1811), and Nathan Smith's essay on typhous fever (1824).

Samuel Bard, the leader in the foundation of the medical school of Kings College, its first professor of the theory and practice of physic, later its dean and the second president of the College of Physicians and Surgeons, second only to Rush in distinction among American physicians of his day, stands in the same paternal relation to the establishment of the first medical school in New York that Morgan and Shippen hold to that founded two years earlier in Philadelphia, and John Warren to the Harvard medical school started in 1783. Bard's address, at Kings College commencement, in 1768, in which he forcibly advocated the establishment of a hospital, seems to have been hardly less notable and effective than the introductory discourse of his friend and fellow-student in Edinburgh, John Morgan. Dr. Walter James has recently published in the QUARTERLY (March, 1907) an interesting account of the life and services of his eminent predecessor of one hundred and forty years ago in the chair of medicine.

Although during the quarter of a century preceding the Revolution American medicine had received the seeds of a fresher life planted by such men as Bond, Shippen, Morgan, Bard, Jones and the remarkable group of physicians in Charleston (Chalmers, Bull, Moultrie, Lining and Garden), the great stimulus to further development came from the increased medical and surgical experience gained during the War of Independence, the contact with better trained and more skilful foreign surgeons and the higher degree of self-reliance engendered by the new political conditions. Evidence of the growing independence of the new generation was the establishment, in 1797, by the scholarly Elihu Hubbard Smith, in conjunction with Samuel Latham Mitchill and Edward Miller—the two latter important members of the first faculty of this college—of the first American medical periodical, *The New York Medical Repository,* which served for many years as the chief medium of publication of medical papers in this country and survived until four years after the foundation, in 1820, of the *Phila-*

delphia Journal of the Medical and Physical Sciences which, in 1827, became the still vigorous *American Journal of the Medical Sciences.* Through these three journals can be traced the records of the greater part of America's valuable contributions to medicine.

When the curtain lifted upon the opening of the College of Physicians and Surgeons, in 1807, many already famous, or destined to honor in the annals of American medicine, were upon the stage. Benjamin Rush, taken all in all, the greatest figure in American medicine and the sole representative of the eighteenth century type of medical philosopher and systematist, died in harness six years later. The colleagues of Rush in the medical faculty of the University of Pennsylvania at this time form a group of unusual distinction—William Shippen, one of the founders of the school and the Nestor of the faculty; Caspar Wistar, beloved and of enduring fame; Benjamin Smith Barton, eminent as teacher and cultivator of natural science; Philip Syng Physick, a favorite pupil of John Hunter, the best trained and most influential American surgeon of his generation, and his nephew and adjunct professor, John Syng Dorsey, whose promising career was not cut short without a record of brilliant achievement. John Redmond Coxe, William P. Dewees, Nathaniel Chapman and Joseph Parrish, soon to be connected with the university, were already active in the profession; John Redmond, the most prominent physician of Philadelphia in his day, the preceptor of Morgan, Rush, Wistar, and many others, was still living in his eighty-fifth year when the College of Physicians and Surgeons was founded.

Nathan Smith, more modern in spirit than Rush and more beneficial in his influence upon medicine, to whom the lancet was not Rush's *magnum donum Dei,* had founded the Dartmouth medical school, in 1798, and later was to become the founder of the medical schools of Yale and of Bowdoin. The versatile and accomplished William Gibson, of delightful memory, was about this time a favorite pupil of Charles Bell and Astley Cooper in London. John Warren, of revolutionary fame, was at the height of his influence and his greater son, John Collins Warren, and James Jackson had begun their professional careers in Boston. Jacob

Bigelow, the most original medical thinker whom this country has produced, had graduated from Harvard College.

The most picturesque and typically American group of physicians and surgeons at the time of the foundation of our college, and for some time later, was that of the frontier near the banks of the Ohio, the representatives in our profession of the indomitable courage, resourcefulness and native vigor of mind and body of the pioneers who blazed the path for civilization across the continent. The best of these men were, withal, abreast in knowledge, training and skill with their contemporaries of the Atlantic coast; they were men of striking originality, substantial contributors to the sum of medical knowledge and art, powerful influences in the material, as well as the medical development of what was then the far west. Ephraim McDowell had been in practice in Kentucky for fourteen years when he performed the first ovariotomy, two years after the opening of this college. His younger and in his day even more influential contemporary, Benjamin W. Dudley, had already entered upon practice, which he was soon to interrupt in order to secure the advantages of medical study in Europe, in this following McDowell's excellent example. In the year this college was opened there began practice in Cincinnati, Daniel Drake, the physician most typical of peculiarly American conditions, a genuine product of the soil, unlike McDowell and Dudley not trained in foreign schools, a real builder and great citizen, who spent forty years in accumulating the material for his monumental work on the "Diseases of the interior valley of North America."

The membership of the first and immediately succeeding faculties of the College of Physicians and Surgeons affords abundant evidence that New York had its full share of able physicians and surgeons, distinguished in their day and deserving our grateful remembrance. These were Nicholas Romayne, the first president and the one most active in the establishment of the college, an energetic, ambitious and powerful personality; Samuel Latham Mitchill, the most celebrated member of the faculty, the scientific oracle of the day, credited with universal learning, Senator of the United States, an active supporter of Robert Fulton, in whose first steamboat, the *Clermont,* he was a passenger on its first journey up the Hudson, the centennial anniversary of which coincides with that of this college; Samuel Bard, the second president of the college, who had for several years retired from practice, was engaged in raising sheep and studying their diseases, and has already been mentioned; his pupil, friend, partner and successor, David Hosack, who became the dominant spirit in the college, already the leading physician of the city, and, like his pupil, John W. Francis, who was a member of the first graduating class and soon afterward of the faculty, combining social, literary and scientific interests with those of his profession; Wright Post, who continued worthily the line of important New York surgeons begun by John Jones and soon to be adorned by the name of his greater colleague, Valentine Mott, the most celebrated operator of his day in this country, who became a member of the faculty in 1813, as did Post, when the medical faculty of Columbia College was absorbed by the College of Physicians and Surgeons; Edward Miller, sharing with Smith and Mitchill the fatherhood of medical journalism in this country, the first clinical teacher connected with the college, the scholarly author of medical papers of permanent value; William James Macneven, a leader with Emmet of the United Irishmen, the first of our medical refugees for political cause, a man of rare accomplishments, distinguished in his profession, establishing in this college, in 1811, the first chemical laboratory in New York; John Augustine Smith, a Virginian, member of the first faculty, later president of William and Mary College, again professor and for twelve years president of the College of Physicians and Surgeons; James S. Stringham, an efficient early promoter of science in the United States, a pioneer teacher of medical jurisprudence in this country, a subject cultivated with distinguished success by Theodore Romeyn Beck, a member of the first graduating class, assisted by his younger brother, the learned John B. Beck, also a graduate, and for many years professor of materia medica and medical jurisprudence in the college; Archibald Bruce, a name familiar to mineralogists, giving to the College of Physicians and Surgeons the singular distinction of establishing the first chair of mineralogy in this country. There was also established, in 1814, a professorship of natural philosophy held by

Benjamin DeWitt, who had been a member of the faculty from the beginning. It is somewhat interesting to note the varied nationalities represented in the immediate, or near, ancestry of these members of the first faculties, *viz.,* English, Scotch, Irish, Dutch, French Huguenot, German and Swiss.

A characteristic feature of American medicine in the period which we are now considering is the position of extraordinary preeminence occupied by the leaders during their day and generation. We cannot read today, without a smile, in the biographical dictionaries of Thacher, Williams and Gross, the glowing eulogies of the resplendent virtues and immortal fame of men whose names are overlooked in the histories of universal medicine or receive perhaps a line or two. The height to which these men attained is to be measured by the generally low level of attainment of their professional brethren rather than by their own actual contributions. Our national medical heroes of this period played upon a small stage a part which then seemed large. A few, chiefly surgeons, as McDowell, Nathan Smith, Warren and Mott, contributed not a little to improvement of the art and many were well educated men of force and ability, who did much to elevate professional standards in America. There will never exist again, in this country, so great a disparity of attainment in the members of our profession, and the few can never rise again so high above the general level of their colleagues.

Biographical sketches and the many addresses of Hosack and of Francis afford us abundant material for learning what manner of men were the early occupants of the professorial chairs in this college and what social and professional conditions surrounded them. Especially rich in information of this character is Dr. Francis's delightful book "Old New York."

Bard, Hosack and Francis, each the foremost physician of his day in this city, belong to the medical lineage of John Radcliffe and Richard Mead, and had the gold-headed cane crossed the Atlantic, it would have descended in succession to them. Francis was the last representative in this city of this type of physician—the inheritors and conservators of old traditions, representatives of the best practice of the times whose large success and dominant influence rest upon good sense and strongly marked personal characteristics rather than great learning, remembered long by anecdote and tradition, prominent figures not in professional circles alone, but also in the public, the social and the literary life of the city, dispensers of a generous hospitality in homes frequented by the wits and notables of the day.

Bard, Hosack and Francis, while under the influence of the prevailing medical theories of Boerhaave, van Swieten, Cullen, Brown and Rush, were each imbued with a saving measure of the inductive method. Hosack advocated vigorously the establishment of municipal hospitals for contagious diseases, national quarantine regulations and a proper system of city drainage. His "Observations on febrile contagion and on the means of improving the medical police of the city of New York" should perpetuate his memory in this city. Although the author of "A system of practical nosology," as dreary as similar works, he said that the principles of medical practice must be gained through "accurate observation, judicious experiment, and cautious induction from the facts which they present," and we can say nothing more and nothing better today. In a like spirit Francis says: "It may be written as an axiom, you might as well create a practical navigator by residence in a sylvan retreat, as furnish a physician without hospital experience."

The character of the early medical schools of this country was determined largely by the influences and traditions of the school at Edinburgh, where the founders and first teachers of our schools received the most valuable part of their professional training under such teachers as Cullen, the Munros, Black, Hope, the Gregorys and the Hamiltons. When the College of Physicians and Surgeons was founded, medical teaching was still much better organized and conducted in Edinburgh than in London, but the immediate successors of Cullen, the second Munro and Black, were less important and able teachers than their predecessors, and American students of medicine at this period in Great Britain received the greatest stimulus from the extramural teaching of John Bell and John Barclay in Edinburgh and from study under Abernethy, Astley Cooper and others in London.

It was especially during the first two decades of the nineteenth century that the influences of English, as distinguished from Scottish, medicine were brought to this country, although these influences were not lacking at an earlier period, especially upon surgery. Thus Thomas Cadwallader of Philadelphia had been a pupil of Cheselden, John Jones of Percival Pott and the American pupils of the Hunters were fairly numerous, including among others Jones, Morgan, Shippen, Bard, Bayley and Physick. Although not a teacher, there was no British physician who took so active and friendly an interest in medical conditions in this country and in American students visiting Great Britain in the latter half of the eighteenth century as the great London physician, John Fothergill. He had many correspondents in America, was the adviser of Morgan and of Bard in planning the first medical schools in Philadelphia and in New York, was a generous benefactor of the Pennsylvania Hospital, was one of the incorporators of the New York Hospital, the charter of which was granted in 1771, and he assisted in raising money for it. His name we should hold in grateful remembrance, as well as that of his friend and successor, another quaker physician of London, John C. Lettsom, who continued after Fothergill's death to manifest a similar interest.

Of the many teachers of medicine in London in the early part of the nineteenth century the two who stand out most conspicuously above their contemporaries as an attraction to students and exerting a far reaching influence are John Abernethy and Astley Cooper, both pupils of John Hunter, Abernethy being the especial custodian of Hunter's physiological views, a vigorous and admirable teacher with remarkable powers of exposition, and Cooper an interesting practical lecturer, meddling little with theories, and occupying a position before the public such as probably no surgeon before or since has held. These great teachers inspired, as few have done, their pupils with enthusiasm and when we recall that among their American pupils were such men as David Hosack, James Jackson, John Collins Warren, Nathaniel Chapman, John Syng Dorsey, Valentine Mott, William Gibson, Benjamin W. Dudley, John W. Francis, Alexander H. Stevens, Edward Delafield, John Wagner, John Kearny Rodgers, we can realize the great influence which they must have exerted upon the generation of American physicians and surgeons of the first quarter of the last century, an influence comparable, although quite different in kind, to that brought to this country at a later date by the pupils of Louis.

In general the conditions of medical teaching in London at this period were far from satisfactory. There were no completely and properly organized medical schools. There were many private medical schools of which the best continued to be the Great Windmill Street School, founded by William Hunter, where Matthew Baillie and Cruikshank had taught the latter part of the eighteenth century, and where in the first and second decades of the succeeding century the leading teachers were James Wilson, Benjamin Brodie and Charles Bell. The independent schools of John Sheldon and of Andrew Marshall in the latter part of the eighteenth century had also been much frequented by American students, and at a later period we hear of many other private schools, as the Webb Street School, Aldersgate Street School, Little Dean Street School, Carpue's, Brookes's, Hooper's, Taunton's, Dermott's, and others. It was not uncommon for a physician or a group of physicians to advertise in the newspapers courses of lectures, and in some instances the purpose seems to have been mainly the advertisement rather than the expectation of securing students.

Lectures to students were given at several of the hospitals, the best at the United Borough Hospitals (St. Thomas's and Guy's) by Cooper, the Clines and Babington, at St. Bartholomew's by Abernethy and his demonstrator William Lawrence, James Earle, the son-in-law of Percival Pott and at this time the leading surgeon to the hospital, and Richard Powell, at St. George's by Sir Everard Home and his demonstrator and assistant Benjamin Brodie, and George Pearson, a very successful and popular teacher of medicine and chemistry, at the London Hospital by Sir William Blizard and John Cooke, at Westminster Hospital by Sir Anthony Carlisle and at Middlesex Hospital by Charles Bell, already engaged in those investigations of the nervous system which have immortalized his name. Matthew Baillie was the leader of the medical profession in London at this period and his influence was strongly felt, although he had ceased teaching before the century opened. Notwithstanding their able teachers it was not until the fourth decade of the nineteenth century that the hospital medical schools gained the ascendancy over the private schools, some of which continued to exist until long after the middle of the century.

The subjects most thoroughly taught were anatomy, midwifery and surgery, and it is upon these subjects that the impress of English influences has been most strongly marked in this country. George Fordyce and William Saunders, both Scotsmen, had introduced in London in the latter part of the eighteenth century the Cullenian system of teaching medicine. The great reform in clinical teaching initiated by Graves and Stokes in Dublin and by Richard Bright, Thomas Addison, Peter Mere Latham and Archibald Billing in London in the third decade of the nineteenth century came at a time when the influence of French medicine began to be more strongly felt in this country, and it is more especially to the latter that the corresponding improvement in America is to be attributed.

In two special directions there were excellent opportunities for training in London at this period, namely in cutaneous diseases under Robert Willan and Thomas Bateman, and in ophthalmology and otology under John Cunningham Saunders, who was active in founding the institution now known as Moorfields Ophthalmic Hospital, and at a little later period under Travers, Lawrence and Guthrie. In the second decade of the nineteenth century Edward Delafield, for many years president of this college, returned after studying in London and with J. Kearny Rodgers established in 1820 the New York Eye and Ear Infirmary, with which he was connected for fifty years, and introduced there and in the college the teaching of ophthalmology.

This period of English medicine, to which we must attribute an especial influence upon medicine in this country, was by no means sterile, although overshadowed by the more brilliant contemporaneous school in Paris. The English surgeons were at least the equals of their French contemporaries. The influence of John Hunter and of Percival Pott upon their pupils and successors was profound and most stimulating. Matthew Baillie had created an interest in morbid anatomy which led to many valuable contributions and prepared the way for Bright, Addison and

Hodgkins. The admirable and distinctive type of English physician which had been represented by such men as Sydenham, Huxham, Fothergill and Heberden was perpetuated by Baillie, Baker, Pitcairn, Saunders, Latham, Powell and others. Charles Bell was laying the foundations of neurophysiology. There was great interest in physiological experimentation and in experimental science in general. The great natural philosophers Thomas Young and Wollaston were actively identified with the medical profession and the genius of Sir Humphrey Davy had been fostered under medical surroundings. The study of the natural sciences, particularly of botany and of chemistry, was very generally combined with that of medicine, and many of our American students of medicine returned well grounded in these sciences as they then existed, and continued to cultivate them. Reference has already been made to the position which these sciences occupied in the curriculum of our medical schools, which were at this period the chief home of the natural sciences.

While it is evident that we can attribute much that is valuable to the influence of English upon American medicine at the period when the College of Physicians and Surgeons was founded, familiarity with the system of medical teaching then prevalent in London did not exert an influence upon the development of medical education in this country so fortunate as that derived from Leyden and from Edinburgh had done upon our first medical schools. The idea of establishing private medical schools divorced from any connection with a university and free from any responsible control was transplanted to this country from London and was developed to an extreme which became peculiarly American. The London schools never dreamed of conferring the doctor's degree or of granting the license to practice. They encountered opposition even in having their courses recognized by the examining and licensing bodies, and their defects were largely compensated by the practical training secured by the apprenticeship system and by hospital pupilage.

Undoubtedly special conditions pertaining to the rapid pioneer development of the country contributed to the establishment in the second and later decades of the last century of the many private medical schools which brought our system of medical education to such a low standard of efficiency and introduced evils from which we are not yet wholly free. An interesting and distinctively American type of physician sprang from these peculiar conditions, namely the peripatetic professor who, travelling from school to school, often acquired great fame as a lecturer. Out of a long list John Delamater (1787–1867) may be selected as probably unsurpassed as a college lecturer of this type. He lectured at Pittsfield, Fairfield, Willoughby, Geneva, Cleveland, Bowdoin and Dartmouth and left manuscript notes of over seventy different courses on almost every branch of medicine.

At the time of the organization of the College of Physicians and Surgeons the great awakening which marked the dawn of a new era was already under way in France, but the new movement was slow in spreading and it was not until the fourth decade of the last century that it reached America, where it proved as fructifying a power for good as it had been elsewhere. The movement ultimately led to the establishment of the science of medicine upon a broad, biological basis. It was ushered in toward the close of the eighteenth century by Lavoisier's discovery of the true nature of respiration and of the sources of animal heat. The chief instruments of advancement in the beginning were general and pathological anatomy in the hands of Bichat and the introduction of the methods of percussion and auscultation of the chest by Corvisart and by Laennec, the "*Anatomie générale*" appearing in 1801, Corvisart's translation of Auenbrugger's "*Inventum novum*" in 1808 and Laennec's "*De l'auscultation médiate*" in 1819. The immediate result for medicine was the substitution, wherever possible, of the anatomical study and classification of disease for the old, purely symptomatic classification.

The power of the new methods and conceptions was speedily demonstrated by the discoveries of Bayle, Corvisart, Laennec, Bouillaud, Cruveilhier, Piorry, Louis, Andral and others relating to tuberculosis and diseases of the heart and lungs and somewhat later by the work of Bright and of Rayer on diseases of the kidneys, of Bretonneau on diphtheria, and of Louis and his pupils on typhoid fever. The dangers of incomplete and too exclusive anatomical study of disease and of one-sided application of anatomical conceptions to clinical medicine were at the same time illustrated by the pernicious doctrines of Broussais. In the third and fourth decades of the century the significance, which today is so much and so properly emphasized, of physiological and chemical methods in the study of disease began to be apparent through the work of Magendie and of Liebig.

This most glorious period of French medicine culminated in the work of Louis, with whose name is associated especially the so-called analytical or statistical study of disease on both the clinical and the anatomical sides. Through the writings of Laennec and of Louis, and above all by that remarkable group of able and enthusiastic young American physicians who were students of Louis between 1830 and 1840, as the younger Jackson, Shattuck, Gerhard, Stillé, Power, Swett and Clark, the new medicine was introduced and soon spread in America. Although Swett was the pioneer in this city, Alonzo Clark was its apostle to this college, with which he became connected in 1841. His coming and that of Willard Parker, the year before, who began systematic clinical teaching, marked an epoch in the history of the college. The ablest and most representative American exponents of the fertility of Louis's analytical method of clinical study were Elisha Bartlett and Austin Flint. More original was the teacher of Swett and of Flint, Jacob Bigelow, who, although imbued with the new ideas, was neither the product nor the adherent of any special school, was a profound and fertile medical thinker of real genius and with his colleague, James Jackson, the elder, shed great luster upon the Harvard Medical School.

By this time German medicine had broken the trammels of the philosophy of nature which bound it in the early part of the century. In Vienna Rokitansky, Skoda and Oppolzer had advanced far along the path first opened in France; Schoenlein was developing the modern German clinic; the golden age of physiology marked by the work of Claude Bernard in France and of Johannes Müller and his pupils, Du Bois Reymond, Brücke, Ludwig and others in Germany had begun, and soon after the middle of the century the cell doctrine had been made by Virchow the immovable cornerstone of pathology. Laboratories, that great contribution of Germany to scientific teaching and investigation, were established and rapidly developed during the second and third quarters of the nineteenth century, first for physiology, then for chemistry, pathology, pharmacology and hygiene, anatomy being the fortunate possessor of laboratories long before. Mainly through her laboratories Germany secured about the middle of the century that leadership in medical science which she has since retained and which soon turned to her universities the stream of foreign students.

The powerful influences of German medical science upon American medicine were not brought to this country by so compact a group of physicians or within so sharply defined a period and were not so immediately operative and are, therefore, not so readily traceable as the impulses from France which I have mentioned. They have, however, been the pervasive and dominant foreign influences of the last three or four decades.

American medicine owes a large debt to German physicians who have settled in this country, to such men as Engelmann of St. Louis, and Detmold who came in the thirties, especially to the men of 1848, brilliantly represented by our own Jacobi and Krackowitzer, and to many of a later period. Soon after the middle of the century their influence began to be distinctly apparent. During and after the sixties the stream of young American physicians returning from their graduate studies in German and Austrian universities introduced in constantly increasing measure those methods and ideals of German medical science which have so profoundly and beneficially influenced American medicine. To this direction of development an especially strong impetus was given by the rise of modern bacteriology following the discoveries of Pasteur and of Koch.

To Francis Delafield and to T. Mitchell Prudden this college owes a debt of gratitude for the introduction of the new methods in teaching and for the establishment of a pathological laboratory under difficult material conditions. Dr. Prudden's dark tunnel of a laboratory replacing an ice-cream saloon in the old Twenty-third Street building marked the beginning of that development of laboratories which has become so important a feature of the college in its new home and from which so much valuable work has issued. It is gratifying to note the moral and material support given to this movement by the alumni association of the college.

In directing attention, as I have attempted to do, to the successive periods in which Scotch, English, French and German influences upon American medicine were especially noticeable, I would not have it understood that foreign influences at any time supplanted native forces. The names of many of those whom I have had occasion to mention testify that such influences enriched a soil already occupied with germinating seeds and did not breed mere slavish disciples. Many of our ablest and best physicians and surgeons, such as John Warren, Godman, Jacob Bigelow, Dewees, Drake, Torrey, the Becks, to mention only a few names of the early part of the last century, received their training entirely in this country.

Besides the impulses received from contemporary European medicine there have at all times been manifold and diverse circumstances which have influenced for good or for ill the development of medicine in this country, such as the material, political and social conditions prevailing at different times and in different places, the national habits, temper and ideals, the educational conditions, both general and professional, the rewards of professional success, the qualities of those attracted to the profession, and many other conditions which cannot be considered on this occasion.

We have our own educational and professional problems, peculiar to the special conditions of our country, and they cannot be satisfactorily solved by the transplantation of foreign systems, although we may receive guidance from the experience of older countries. Medicine has become cosmopolitan and we can no longer speak with propriety of exclusively national schools of medical thought and teaching. America is destined to make her own contributions to the world problems of education, science and art, and to repay the debt which she owes to other countries.

The elevation of educational standards in our better medical schools during the last quarter of a century has been most gratifying, and in this movement the College of Physicians and Surgeons has had a conspicuous share. Laboratory teaching has advanced from the weakest to the strongest position in the curriculum. The question may even be raised whether in some instances too much time may not be occupied by the instruction of students in laboratories, although I should be reluctant to concede this. I believe that at the present moment improvement in opportunities and methods of clinical training is a more urgent problem than the teaching of the so-called laboratory subjects. Something more than the amphitheater clinic or the ward class, useful as these are, is needed to furnish a clinical training analogous to the training supplied by practical work in the laboratory and to make capable practitioners. To secure this, dispensaries and the public wards of hospitals must open their doors more freely to advanced undergraduate students of medicine, and I have recently on another occasion endeavored to show that this can be done with advantage not only to the teachers and students, but also to the patients and the general efficiency and usefulness of the hospital.

I can wish no greater good fortune to the College of Physicians and Surgeons or indeed greater benefaction to the cause of medical education in this country than that it should come into possession of a general hospital of its own. Next to this is the establishment of such relations with public hospitals in this city as will render possible for its students such clinical training as I have indicated, and I understand that steps have already been taken to secure this result. The medical schools of New York, through failure to avail themselves more fully of the immense clinical opportunities of the public hospitals in this city, do not secure the full advantages of location which rightfully belong to them.

There is one important field of study and practical work which is not as yet adequately represented in our medical schools. We urgently need the establishment of well equipped laboratories where students and physicians can be trained in public hygiene. We are at present within a vicious circle. On one hand, there is very little appreciation on the part of the public and of municipal and state authorities, of the necessity of special training for those appointed as health officers, and therefore there is little encouragement to secure the training, and, on the other hand, skilled hygienists are so few that the value of their expert knowledge is not made sufficiently evident to the public. It does not seem possible that such conditions can long continue, and attempts to improve them have already begun. I do not know where more favorable conditions can be found for the establishment of a department of public hygiene to supply the training needed by those who wish to engage in public health work than in this city.

Upon anniversaries like the present attention is usually turned in the first instance to the past. The survey of honorable records and achievements supplied by the history of the College of Physicians and Surgeons is full of hope and of inspiration for all of us interested in its welfare. As it enters in full vigor upon the second century of its existence, our college, fortunate in its vital union with Columbia University, looks forward confidently to a future of expanding resources and ever increasing usefulness and power for good in the education of students, in the advancement of knowledge, in the prevention and relief of suffering and disease, and in the consequent promotion of the well-being of mankind.

THE ALUMNI DINNER

The social features of the celebration consisted of a smoker at the Columbia University Club on Monday evening, and the alumni dinner at Delmonico's on Tuesday evening, June 11. Over two hundred alumni from New York and other cities were present at the dinner and considerable enthusiasm was aroused. The diners were called to order at 9:30 p. m. by the toastmaster, Timothy Matlack Cheesman, M.D., president of the Alumni Association. Dr. Cheesman said:

Gentlemen, we meet to night to do honor to our *alma mater* and to register a landmark in her history, the centennial anniversary of the granting of the charter, under the authority of which she has, for many years, held a leading part in the medical education of the United States.

During these one hundred years, seven thousand, two hundred and twenty-five men have received the degree of doctor of medicine from our College, and tomorrow there will be added to that number ninety-three more. These men have settled in all parts of the United States, perhaps all parts of the world, there to pursue the practice of their profession; but they have not gone away from our *alma mater* without material benefit from the instruction they have received, as is evidenced by the illustrious names that are to be found on the list of our alumni. Many have returned to the College to teach and thus keep up the good work of their predecessors; many others have been called to medical institutions throughout the United States, there to teach according to the same high standard in which they themselves were reared.

As those who have preceded us prepared this College to give an education in medicine, so is it our privilege to prepare the College to instruct future generations of medical students. It is a sacred duty to provide for the future a heritage at least equal to that which we have received from the past. The responsibility for this does not belong to any one man, nor does it belong to any single group of men. It can be accomplished only by the united efforts of all those who have received the honors or privileges conferred by the degree of doctor of medicine from this college. Let us all unite to do all we can whenever we can for the benefit of our college. Gentlemen, we cannot do more; certainly we cannot pretend to do less.

The toastmaster announced that the Cartwright Prize had been awarded to Mr. R. M. Yerkes of Cambridge, Mass., for his essay on "The physiology of the senses and the behaviour of the dancing mouse." He then introduced the first speaker in the following words:

It is now my pleasant duty, gentlemen, to present to you the first speaker of the evening, President Butler. From an association of some years with President Butler on the committee on education, I can say that there is no branch of the University to which he has devoted more care and in which he has exhibited more interest than the College of Physicians and Surgeons. President Butler.

Speech of President Butler

Mr. Chairman and gentlemen: It is a privilege as well as an agreeable duty first to offer to the alumni hearty and most cordial congratulations upon the successful celebration of the first centenary of the existence of the College of Physicians and Surgeons. We are apt, in these not very sentimental days, to overlook too much the significance and the value of seizing upon just such occasions as this to look back over the course that has been run and to reflect for a little upon the meaning of it all.

It is difficult enough to imagine the world not only without the electric light and without illuminating gas, but without even the sulphur match; but that was the world into which the College of Physicians and Surgeons was born. Our everyday habits and occupations develop so quietly and so unconsciously to ourselves, and are so closely interdependent with the advances of science and their applications, that unless we stop now and then to mark the history of some of the larger changes, we quite fail to appreciate the significance of the time in which we are living.

I fancy that few branches of science have made so much history in the past one hundred years as the science or sciences upon which your art is built. When the College of Physicians and Surgeons was founded, chemistry was just beginning to be; physics had almost everything to learn; and the science, or group of sciences, known as biology had hardly come into existence, even in imagination, in anything approaching the form under which we know them. Men had, by sheer force of observation, personal insight and skill, gained an experimental knowledge of disease and the methods of its cure, which constituted the medicine of a hundred years ago.

The task of these one hundred years has been chiefly, as I see it, to put an increasingly solid and stable scientific foundation under medicine and surgery and greatly to deepen those foundations by the activity of men of science of every kind; and that is primarily the reason why a school of medicine of the first class anywhere in the world is now found in connection with the study of just those subjects.

In our own University, medicine was brought forward, as you have heard from your historian, very early, largely by the activity of Dr. Bard and those who were associated with him; but they would have been the first to marvel at what is revealed and spoken of and talked about and demonstrated today in every medical school and hospital in the land.

But some things those early pioneers of medicine in this University and this city laid hold of, either by intuition or force of reasoning, which were of permanent value. It may perhaps have escaped your attention that they drew a distinction in their very first statutes between the degrees of bachelor and doctor of medicine, and that they proposed to apply to the student who passed through a medical curriculum similar tests and to award similar academic recognition to those usual in the study of the law. From the standpoint of a university, it is not a little unfortunate that in respect to medicine alone in this country the degree of bachelor has been dropped, and we are left alone with the degree of doctor, to be given to the youngest graduate and least experienced practitioner, thereby depriving ourselves of the opportunity to see what may be accomplished by graduate and special study in the field of medicine in universities. Sometimes very slight and thin veils conceal very real and solid facts. In our modern life, especially dealing with a great profession which is so closely in touch with every possible public interest, whether individual or social, it is quite impossible to put one's standards of accomplishment at a point that would deprive the public of this sort of service, and yet it ought to be within the power of the medical school and of the university to hold before the student who has laid his sure foundation and who has built upon it with personal experience and practice, the opportunity and the desirability of carrying forward in systematic fashion his professional studies to a higher degree of attainment and for a still more honorable recognition. We lost something when we dropped out the distinction which the fathers of medical study in New York made and drew when they distinguished in that first statute between the qualifications for the degree of doctor of medicine and the qualifications for the degree of bachelor of medicine.

But if we have lost something, we have gained very much. We have made it perfectly plain that the limitations under which medicine was once studied and taught were quite impossible of continuance, if satisfactory standards, general or professional, were to be reached. It has been found that the association of one type of scholar with another in the great university family is of the most helpful and stimulating kind, and so it is that, with very few exceptions, unless a professional school is frankly commercial, it is found today within the walls of a university or in close alliance with a university foundation. It is interesting to see how in this new country of ours we have repeated in this respect the general history of education the world over.

You will remember that the study of law began at Bologna, just as the study of medicine is supposed to have begun at Salerno. In this country the study of law began apparently in Litchfield County, Connecticut, and the study of medicine began in Philadelphia and New York. By the operation of precisely the same forces which brought the law and medical schools of the later Middle Ages into university relationship, the law and medical schools of these United States that have not themselves been the creation of university corporations, have sought university membership for the strength which that membership afforded, for the stimulus which it offered, and for the companionship, scientific and personal, which was thereby gained.

It is worth noticing that in our university not a few teachers in the school of medicine sit also as members of the faculty of pure science; this meaning, according to our nomenclature, that they are presiding over students of two distinct kinds, both those who have come to them for instruction leading to a profession and those who have come to them for guidance in methods of investigation and research, in order that, while the professional spirit is kept alive and its standards high, zeal for extending the boundaries of knowledge, pressing out into the unknown and gathering in new material for the student of the future may be kept alive; not only alive, but actively and persistently at work. For, if there is one thing which has been demonstrated more than another, gentlemen, it is this: That unless the spirit of research and investigation inspires the higher teachers of the land, they grow dull and sterile and their work dies.

It is the business of a university in its every part to afford facilities for research and investigation, to provide, by counsel, by cooperation and by publication, for the pursuit of investigation and the spreading of its results before those who are interested and the public generally. It is this sort of thing, this great gain, which the medical school gets from its university association, even if there were no physics and no chemistry and no biology and no languages to be reckoned with, either in the medical course or in preparation for it.

There is one very interesting point in connection with the history of medical study and teaching which we may not overlook. Whatever may have been the limitations of earlier methods, whatever may have been the paucity of researches which once prevailed, the old system did provide for close personal relationship between a master and his apprentice; and what the youngest student got in addition to his information, in addition to his training in method, in addition to what may be called his experience, what he certainly got was something of the personality, of the strong elder man under whose tutelage he had come. Now, in these great universities, in these great professional schools of medicine, law and theology, engineering and teaching, it is of the first importance that we should do everything in our power, while substituting the newer and more beneficent methods for the old, to see to it that that element of personal contact and personal influence is emphasized so largely as is possible.

There is no force in the world that can ever take the place of the force of personality. There is no book, however learned, that will serve to stimulate as does the voice of the living teacher who has the knowledge that the book possesses; and to keep the strong, efficient, scholarly teachers of medicine today in such personal relationship with the younger students that their personality will pass over into and impress the practitioners of medicine of tomorrow, is a problem which faces every medical school in the land, our own included. We cannot afford to leave it unsolved and we cannot afford to withdraw, under the pressure of practice, of investigation or of teaching, the element of personal contact between what, in the old language it is still suitably called, " the master and his apprentice."

So rapidly have medicine and surgery developed that one hesitates to predict for the future. Especially must a layman be careful in setting possible bounds to what may take place within the lives of some of us in this room; but this much is certain, that, as the present science or the sciences at present in alliance with medicine develop, an increasing stress is going to be laid upon what you call preventive medicine, and more and more it is going to be the duty of the medical schools to see to it that their graduates are thoroughly trained in that aspect of the field, and indeed that men are specially trained for service of the public on the side of preventive medicine.

I think it goes without saying that it is to the medical school that the public must look, as it has looked in the past, but it must look with increasing frequency, for trained men of science and administrators to take charge of departments of public health, to work in the sanitary service of municipalities and counties and States and of the great national services. If that whole aspect of the subject can be organized and developed and brought into touch with what perhaps may be called, for the sake of distinction, the therapeutic side or aspect of medicine, we shall have gone a long way forward in serving the public, which is after all the chief aim of the great profession to which you belong.

It is not appropriate that on this occasion I should detain you for more than a few moments, but I do want to say to the alumni of the College of Physicians and Surgeons, on behalf of the University generally, that the University is proud of the school of medicine, of its faculty and of its alumni, and that the very large sacrifices that are made year by year to maintain standards, to make instruction increasingly efficient, to provide new and broader clinical facilities, are made as part of a high and true and clear conception of the University's duty. A medical school is not attached to a university; it is an integral part of a university. That, gentlemen, is the relation which your College bears to the rest of our University. That it long may flourish and prosper and be able to celebrate other centenaries, with equally honorable achievements to its credit, is the wish of every lover of Columbia and of every member of the University, high or low.

THE TOASTMASTER: I now take pleasure in introducing to you Dean Lambert, the dean of the College of Physicians and Surgeons, and the honorable successor of Samuel Bard. Gentlemen, Dean Lambert is one of the pioneers in this city in striving to get, for the instruction of the students, clinical material. He has been a pioneer in trying to bring the hospitals in line, and I know of no one who offers a better chance of success than he. Dean Lambert.

SPEECH OF DEAN LAMBERT

Mr. Chairman and alumni of the College of Physicians and Surgeons: The College of Physicians and Surgeons looks forward at this opening of its second century with a determination to advance its usefulness and its standards ever to a higher plane. We have heard this afternoon from Professor Curtis an instructive presentment of the troubles and the pitfalls of our earlier history. We shall hope to avoid similar errors in the future. We hope and believe that none such is threatening at this time of our centennial birthday. The College has endeavored to show to you, her alumni, during the past two days, the methods of teaching and the present facilities at her command. She hopes that you find her a better College, as you surely find her a different College, from the one you left, armed with your degrees. You registered today, or most of you did, under the same guiding surveillance as that which directed your first matriculation, but Andy no longer rings the bell and the prosectors do not prepare their exhibits in ice-cream freezers.

The College is not yet perfect and has many problems to solve before her work will be satisfactory to herself and will fulfil modern requirements. These educational problems to be solved are all too simple, they amount to nothing but mere financial problems. Two of them in particular occur to me. The College needs to meet a modern and new demand in education, she needs the facilities to train and educate medical men to serve on the staffs of public health boards and to carry on the details of sanitary work and preventive medicine in State and civic departments. Such a foundation for training in public health and sanitation should be a part of a medical school and its graduates should previously have had a medical course. The College of Physicians and Surgeons would welcome such an addition to its departments. The most urgent need of the College of Physicians and Surgeons, however, is a university hospital. This College and her sister schools in this city have held their own in friendly rivalry with schools in other cities more fortunate in this regard only by the bulk weight of the clinical facilities of New York as compared with those of any other American city. We New York schools are still shopping around the town for opportunities to teach in hospitals in which we have no vested influence. You, the alumni of the College, can well remember the tramps you took and the car-fares you spent to secure the benefits offered you by the College. There is one point of view which is constantly coming forward to oppose the development of the hospital as the laboratory for clinical knowledge. I refer to a feeling that the patient must necessarily suffer if he be made a subject of clinical study by an undergraduate medical student. This feeling is as difficult to combat as the equally nonsensical ones that an ambulance surgeon is always a brute and that a hospital superintendent transfers patients only to improve the death-rate of his institution. The whole difficulty seems to lie in the preconceived difference between a student of medicine and a doctor of medicine. As if doctors of medicine do not remain students as long as they practice their art, at least with success. The trouble does not come from the patients, but from their zealous protector, the hospital trustee.

In nearly twenty years of experience as a clinical teacher, I have rarely met with any objection whatever from the many patients I have used for teaching students. This prejudice dates back at least to the days of venesection: at the present time I have often thought that patients enjoyed being talked about to students. As one goes about the city the most common and most popular story that one hears in trolley-cars or on the street is somebody's hard luck medical story. In hospitals the hard luck medical story which is most interesting to the individual is the patient's own; but I do not need to emphasize to you alumni, many of whom have become teachers in this and other cities, that patients who are the subject of clinical demonstration are better studied than those who are not observed by undergraduate physicians. I only wish to illustrate to you some of the problems of the College.

Besides its needs, the College has its ideals, and they are still old fashioned ideals. In these days of social unrest and corporate irregularities, it has been a great satisfaction to see that in the recent searching investigations of the New York State insurance companies, their medical departments have never once been pointed to except as the honorable and faithful performers of their duties. But this is no more than should be. The ideal of the College is to teach men to train their hands to act with skill, to train their brains to judge with care, to keep their eyes open and their mouths shut, and to serve all men with equal attention without regard to the degree of remuneration.

Tomorrow you will hear the graduating class charged by our senior professor, he who charged the majority of you, in that most ancient of forms, the Hippocratic oath, which embodies the ideals of our College: to continue to send out graduates as skilled as may be in medicine, but above all, to send out men who shall be a credit to it, and an honor to the community where they may elect to live.

THE TOASTMASTER: Gentlemen, I take pleasure in presenting to you Dr. Aked. The Reverend Dr. Aked comes to us from foreign shores, and he informed me this evening when he arrived that he had found a foreign tongue. Dr. Aked, gentlemen, I wish to ask you to treat tenderly should he ever come into your care. Dr. Aked.

SPEECH OF THE REVEREND C. F. AKED, D.D.

Mr. President, Mr. Dean and alumni of the College of Physicians and Surgeons: I appreciate very highly indeed the honor which you do me in permitting me to be present at this festive celebration, and in extending to me the hospitality of your centenary rejoicing. I thank you very heartily for this favor. Since I drifted upon your shores, a bare two months ago, I seem to have been living in a world of kindness, world after world of fresh good feeling opening to me; and it has seemed to me that the kindness of the American people is not the least wonderful thing in this wonderful land. Your good nature tonight tempers to my soul your genial habit of victimizing your guests by informing them, five minutes before dinner is served, that they are expected to make a speech. That I take to be a specimen of that which, in Europe, we have often heard of and read about—American humor, but this evening I have a secret, not to say a sneaking, sort of satisfaction in the thought that your humor is likely to cost you dearer than it does me; and that however humiliated I am in the thought that I have to present to one of the most learned societies in the world, numbering amongst its members some of the most distinguished experimenters, thinkers, and practitioners living, however humiliated I may feel by the thought that I may have to present to such a gathering these unpremeditated nothings, you are likely to suffer under them a great deal more than I shall. . . .

In those hundred years of history of yours, you have been looking at a progress such as no other hundred years has known; and not only that, but while this wonderful century on which you are looking back has been marked by its phenomenal progress, in democratic advance, in the accumulation of wealth and the centralization of capital and the development of industry, while it has been marked by such wonderful progress in every field of human inquiry, discovery and achievement, there is no field of human research or of human attainment where its progress has been at once so wonderful and so charged with such amplitude of promise for the future of the race as in the related sciences of surgery and medicine, whose triumphs you celebrate tonight.

Your achievements and your spirit are the rebuke to the pessimistic temper. I will not say of this country—for here the pessimistic temper is so little observed compared with the countries that I know better—but your spirit and your temper are the constant rebuke of the pessimistic mood which has fallen upon so many of the old lands. Pessimism, as you know, sir, has become, in our time, in many countries, in the Old Country certainly, a fashionable disease, more fashionable than appendicitis and far more fashionable now that they have given it that name than it was when my grandmother used to call it the "sulks." But you are looking forward, and your conquests of the impossible constitute an everlasting rebuke to this which seems to be an ingrained tendency of our human nature, to look backward, tearfully backward and still backward amongst the mists of antiquity, where fact and fancy strangely blend, to find the golden age of human history.

All races and all nations have put their golden age behind them. Men who have been mummies now for about three thousand years used to meet in the streets of Memphis and on the banks of the Nile and lament the good old times when Rameses was king. China had her golden age about two thousand years ago, before she was Japanned, and it seems to be the ineradicable tendency of our human nature ever to search amidst the mists of antiquity for the good old times. . . .

I wonder whether any of you know that there still remains in some of the assize towns of England the habit of presenting to the judge of assize, on the opening day of the commission, a bouquet of flowers, and offering with the flowers a sprig of rue. Ask any old woman of either sex the meaning of this presentation of rue, and she will tell you that it means that some poor fellow will rue the coming of the judge. That is not quite correct. The fact is that the rue was believed to be one of the best of disinfectants in those days, and all the while the judge presided over the trial, this sprig of rue lay upon the open page of his note-book, and as he turned over the page, he brought back his rue and during the whole of the time that the trial was in progress, he was sniffing at his disinfectant for the purpose of warding off the jail-fever, which otherwise might come up from the dirty prison-cell and strike down the judge upon the bench. And, as you know, gentlemen, today the one place upon the face of the whole earth where an infectious disease cannot live is one of the best of your American or English prisons; so far has sanitary science gone and so far has that humanitarian spirit, which is the crowning glory of the day we live in, so far has that aided your efforts, that where the judge himself was in danger of the prison fever, there today an infectious disease is remorselessly stamped out.

I have to congratulate you and to praise you for this: that you represent to us an inspired inquisitiveness. You stand to us for the consecration of curiosity, for, in the old days, man's life was encompassed by immortal fears; and if we cannot be permitted any longer to believe that we owe the discovery of the law of gravitation to the curiosity aroused in the mind of Newton when the falling apple hit him on the head; and if legends connected with William Harvey or with Astley Cooper, or with others whose legends are familiar on every lip, may be described to us as about as reliable as the solar myth; it is still true that humanity has owed its deliverance from fear of the terror by night and the arrow that flieth by day to the inspired inquisitiveness, to the consecrated curiosity of men like yourselves, who have turned aside from sloth and selfish indulgence, determined to know the why and the wherefore of all things in the heavens above and in the earth beneath and in the waters under the earth; to ask questions of nature and to demand from her replies to the most pressing inquiries that their daring minds could address to her. Your achievements have been world wide, and if it is not out of place, if you will not think that it is trenching upon that which is too familiar and too personal, I should like to add that though we have our times when the joke against the doctor, worn threadbare as it often is, is the joke that appeals most to our risible faculties, none the less, in our heart of hearts, we know that the representatives of no profession have given more time and more labor, without fee or reward, and without hope of fee or reward, than yourselves. The representatives of no profession have manifested at once a humanity and a heroism greater than your own. I bear this grateful testimony, and if I may add this word: Some years ago a friend of mine, a physician of distinguished position in our English life, visited your hospitable shores and was received, as you always receive a comrade and a brother, with that abounding kindness on which I have already commented; and on his return, when I was asking him how he had fared in the United States—it was in my own study—he reached down a volume of John Greenleaf Whittier, turned to that short poem called, " The healer," read it all over to me, and emphasized the last verse:

> The good physician liveth yet
> Thy friend and guide to be;
> The healer by Genesereth
> Will walk the rounds with thee.

And as he read those four lines and emphasized them, he said: " That describes, better than anything I can say or anything I have ever read, the physicians and surgeons of America."

Gentlemen, I rejoice that such a tribute could have been paid to your humanity and your goodness of heart, and I congratulate you upon all for which this centenary stands. I pray that the richest blessing may rest upon your work, upon your College, and upon those who shall come after you; that the men whom you are training, to whom you will look to carry the flag in years to come, may be worthy of the great traditions which are their heritage and of the line of heroic and humane thinkers and workers from whom they spring.

THE TOASTMASTER: Gentlemen, I will now call upon Dr. Thomas Darlington, president of the Board of Health and health-commissioner of the City of New York. He is a graduate of this institution and perhaps can give you some points in regard to it.

SPEECH OF DR. THOMAS DARLINGTON

. . . On an occasion like this, gentlemen, when we are meeting in universal good fellowship, I think we have earned the right to congratulate ourselves upon the universal achievements and the great gains made in the profession since the founding of our *alma mater,* over which a century's suns have risen and set.

Were we to confine ourselves to the wonderful achievements and the heroic deeds of those who have graduated from our College, we might well fill the time. It is, however, the highest spirit of our profession which appeals to me as worthy of mention and emulation, that spirit which makes the efforts of a part the achievements of the whole, that undying loyalty and above all self-sacrifice, which renders the work of each one of us of little self-value except in so far as it contributes to the honor and glory of the profession. Whatever we individually accomplish belongs to us all, and I count it not the least of the attributes of the profession that it is on such a high ethical plane that self-aggrandizement is self-disgrace. The greatest honor comes to him in whom the thought of individual credit is discounted in the service of universal good. So the achievements of eminent men throughout all the ages bring honor to the whole body that they represent; and a realization of this fact, it seems to me, should be an incentive for the perpetuation of the highest ideals. We cannot all be Jenners, but each can worthily play his part in the great scheme for existence, and in self-forgetfulness and mutual helpfulness make the next century even more brilliant than the last has been.

The wonderful advances made by the medical profession in the last century we need not recount; they are known to you all and known to the world. That grim hag cholera no longer knocks at our doors and demands admission in the name of death; smallpox, that ruthless destroyer of physical perfection, whose ravages made the heart ache and the soul despondent, is practically non-existent, the exceptional case proving the rule of general oblivion; and we all know that the absolute extermination of yellow fever and malaria is only a question of sanitation. The onward march of civilization in the cities and climes of the Southland has been made possible only because that health-destroying pest, the mosquito, has been deprived of his habitat and his right to feed with impunity upon our bodies. The Panama Canal would still be in the stage of theory if sanitary science had not blazed the way; and the success of the Japanese army in its recent struggle is due quite as much to their knowledge and application of the laws of hygiene and of sanitary science as to their individual valor or strategic ability.

There is no branch of the government of a community that exceeds in importance that one which deals with its health, and no questions can be more vital than those that relate to life itself. In the face of plagues and scourges, business and economics dwindle and are lost in the shadow. The department of health in a community is merely your representative, and in order to fulfill its purpose must have the undivided loyalty and the cooperation of every citizen. It is incomprehensible to me how there can ever be a trace of friction between the department of health and the individual physician. We are all working towards the same end, and there is not a rule or regulation in the department of health in New York City which inhibits in the slightest degree the professional liberty or the efforts of a physician who is worthy of the name. It is no small achievement that the death rate of tuberculosis in New York City has fallen forty per cent. in the last twenty years. However much your efforts as individuals may have contributed towards this result, it would have been impossible of attainment were it not for the reporting of cases to, and their systematic control by, a central authority.

Speaking for the department of health of New York City: we need your help and cooperation, and we welcome any honest criticism. There should be no coercion on our part. It is part of your duty as citizens and physicians to understand our regulations and their broad purpose and to do your part in helping us to make them effective; and I feel that I can endorse the suggestion that has been made, that a department of hygiene should be added to the College, not only for learning how to most effectively carry out the administrative policies of the department of health, but in order that the laws may be taught to those who graduate, for there are comparatively few physicians, I take it, in the city of New York today that know all of the laws of the State relating to hygiene and sanitary science. If tuberculosis, malaria, typhoid and pneumonia are to be eradicated; if epidemics are to be held in check and contagion prevented; if sanitation and hygiene in their highest aspects are to become an actual verity, and if the great work of conserving and perpetuating the health of school children is to serve its purpose, you must aid and uphold us. In this work of caring for the school children we may yet be confronted with a problem which will be rather difficult to solve. There are those who believe so in parentalism, that they believe that every child in the public schools should be attended by physicians attached to the schools. It has been the aim of the department of health not to provide medical care for the school children, not to take care of their health, but to investigate the conditions and then to refer the cases to the medical profession; and it seems to me that that is the only proper standpoint to take—not to interfere with the practice of medicine, not to assume the responsibility. If these patients are too poor for treatment, they may apply to a clinic or to some well recognized hospital, but it does not seem to me that it is the purpose of the department of health to assume the responsibility of their treatment any more than it is for the department of education to do so.

If you could spend one day in the room where the children apply for working papers and see the unnecessary hardships imposed on these would-be bread earners because there is no record of their birth, and therefore no way to determine their actual ages, you would realize, as never before, the far reaching misery which results from the failure to send in birth certificates. The law is explicit and we have no option in its enforcement. If every case of tuberculosis were reported and the suggestions of the department as to personal hygiene and prophylaxis were rigidly enforced by the attending physician, the number of new cases developing would decrease with astonishing rapidity. If we knew of every case of contagious disease and you would add your efforts to ours in enforcing the proper isolation and disinfection, the exanthemata would become a minor consideration. If, above all, you, as citizens, would uphold us in the work and instill into the public mind the importance of this warfare against preventable diseases, and so create the public sentiment essential to the appropriation of sufficient funds for successfully carrying out our work, you would be assisting in a public service of the highest type and contributing to the ultimate ideals of professional attainments.

There are some lines that I read not long ago of the physician, which I think I should like to read to you:

The man of medicine should ever be
A wholesome man if he would visit me;
A man of hearty ways, and cheerful eyes,
Who all depressing circumstance defies.
Who carries inspiration in his voice
And in whose coming life and death rejoice.
Ah! sad and sick the suffering ones, who miss
The touch and presence of a man like this,
Whose thrilling magnetism and cheerful laugh
Add to his remedies their better half,
And reenforce the courage and the will
And give sure virtue to the doubtful pill.

I cannot close without saying one word for those who have passed away, some of whose names will stand forever in our city. I might mention one, for instance, of this College after whom one of the hospitals of the department was named—Willard Parker; and there are hosts of others. They, though being dead, yet live and speak—live in the hearts of this company and speak to us of the worth and the immortality of glorious deeds. Thus may we also, by devotion even unto death to highest purposes, deserve a place in the hearts of the good for all ages.

And as each one of the speakers here tonight has expressed a wish to you for the future, so let me. I wish that your lives, which have already been like the sun, and have increased until now—you have reached the full meridian—that though at times your life may be obscured by clouds and storms, yet when it comes to its close, like the glory and effulgence of the setting sun, your last days shall be your best days, giving light and comfort to those around you, and when sinking below the horizon, as an afterglow, may the sweet memories of you be an inspiration to your kindred and friends, and you, like the sun, rise again upon a more glorious morning.

THE TOASTMASTER: Gentlemen, I will now call upon Mr. George Lockhart Rives, chairman of the Board of Trustees of Columbia College, who is also one of the governors of the New York Hospital, that institution that was founded for the express purpose of affording clinical material to the medical department of Columbia College.

SPEECH OF GEORGE LOCKHART RIVES

Mr. President and gentlemen: I have very great pleasure, very real pleasure, in addressing you tonight and in joining with the others in wishing you, the College of Physicians and Surgeons and its Alumni Association, many happy returns of the day.

When I think of the history of this association, when I think of the roll of its alumni and when I reflect upon the extraordinary progress that has been made in the science and art of medicine during the existence of the College, I feel that those who are privileged to be your guests tonight have a certain sort of reflected glory from the achievements of the College; and I feel that we are all entitled to congratulate ourselves upon being permitted to come here and share with you the recollections which this anniversary affords.

I speak particularly of the progress in medicine during the last hundred years, because it seems to me it differs radically from other professions, certainly from the two other learned professions, as they are called, theology and law, in the fact that medicine is a progressive science. You do not refer as a matter of everyday practice to precedents for your guidance. The lawyer, habitually, every day, turns back to precedents. If he is consulted in a matter relating to the Constitution of the United States, the first thing he asks is, what did John Marshall, who was appointed, in 1801, chief justice of the United States, what did John Marshall say about it? And it was only three or four days ago that a case, involving the question of the responsibility of the proprietor of the Grand Central Hotel in this city, was decided because the judges of the time of Queen Elizabeth had decided a similar case. Now, if you are consulted in regard to the constitution of a patient, I suppose the last thing in the world you would do would be to consider what Queen Elizabeth's physicians said about it. You lose a good deal of pleasure in going back into the historic circumstances that attended these former decisions; you lose a good deal of literary interest; but, on the other hand, you have the exhilarating feeling of entering from time to time, with very great rapidity, upon new fields of knowledge and acquisition.

The extraordinary rapidity with which medicine has developed is something that I think impresses the members of other professions beyond almost anything else. Even in my own time, within the lifetime of everyone of us here living, the art of medicine—the science of medicine at any rate—has been practically revolutionized. The very language that was spoken when I was a boy is no longer the familiar language of the physician. When I was a boy people talked about " congestion of the lungs " and " inflammation of the bowels." You talk about " pneumonia," you talk about " appendicitis." I suppose those words were not known at that time. The word " asepsis " I suppose has been coined within a few years. It was as unknown when I was a boy as the thing itself; it was as unknown as the X-ray or the clinical thermometer in ordinary practice. And so when you come to try and find any kind of analogy with the way in which the science of medicine has grown, it is a very difficult thing to look about the world and find any other profession or science which has developed with equal rapidity. The only thing that I can think of is an art in which I have taken an amateur interest—the art of navigation. If you go back to a hundred years ago, you will find that Nelson's fleet was not very different from the fleets of England which fought the Spanish Armada; and Queen Elizabeth's captains, Drake and Hawkins and the rest of them, would probably have commanded our ships in the War of 1812 almost as well as our captains did, for they would have had very little to learn. So it was in the art of medicine. The old frigate " Constitution " the United States Government is today refitting and rerigging at Boston, so that she will be the same frigate that sailed a hundred years ago, so far as external appearance, and so far as all her fittings and appliances go; and as she lies there at the navy yard in Boston alongside of some of our modern ships, the contrast is most extraordinary. If we could refit and rerig Dr. Bard and some of the other medical gentlemen of former times, the comparison between them and you, between what they could accomplish and what you can accomplish, would be no less astounding. We can to a certain extent measure what that difference is, but every time that one thinks about it he realizes that you have effected not a gradual transformation, but a complete and entire revolution in the whole art which you practice.

Now, this revolution, whether it is in the art of naval warfare or in the art of medicine, has come about, I suppose—and I speak naturally with a great deal of diffidence—largely from the efforts of people who were not practitioners of the art. Watt, Fulton, Bessemer, Ericsson, were the men who revolutionized naval warfare. None of them was a seaman; and in the same way, I suppose, the art of medicine has largely been revolutionized by the chemist, the pathologist, the microscopist and so on—men who are working in the laboratory rather than working at the operating table or by the bedside.

This points to a distinction that seems to me most important. No man can be a successful commander of a ship or of a fleet unless he has spent years at sea in all sorts of weather, in all sorts of climes and under all kinds of conditions. It is one thing for a man to sail his vessel with a coast pilot, and another thing to navigate a ship in foggy weather and along a dangerous coast; and so it is a very different thing to study medicine theoretically from studying it practically. And I suppose, because I am told so by physicians, that the vital importance of practical medical knowledge at the present day is the same that it was in the time of eloquent Dr. Bard—that is, the necessity for hospital practice, for hospital instruction, remains the same. Just as the sea is eternally the same, so disease is the same and no man can learn to master the one or the other without actual experience of the thing itself.

Of course we recognize the fact, all of us, that one of the functions of every hospital is the educational function; that every hospital, as a part of its business, is bound to teach. I am often tempted to say that it is the principal function of a hospital. I suppose that I am a little prejudiced in that, because, as your president has said, I am not only a hospital trustee, but also a college trustee, and I do feel very strongly that we, and especially I suppose the New York Hospital, are not doing anything like our full duty in the way of education. In saying that I am only echoing what your dean has said before me, but I want to ask a question in all frankness, and that is: Whose fault is it that hospital trustees do not quite come up to the full measure of their obligations and opportunities? And my answer is: It is the fault of the medical profession. I do not think that the medical boards of our hospitals do quite their full duty in this regard; I do not think that the gentlemen who are connected with the medical profession and who are not on the medical boards of hospitals, quite do their full duty in this regard. I think it is for you to educate the lay members of the community, and especially those gentlemen who happen to be hospital trustees, to a realizing sense of what they owe to the future, to make them feel that a hospital exists not only for the one or two hundred people or more who happen to be within its walls, but that they also owe a manifest duty to the people who are educated there, who will treat disease when they leave the hospital, and that every hospital is bound to see, just so far as it is possible to go, that full education is given to the men and women who come there to be taught. I say men and women, because although we do not in this city, as they do in Baltimore, Dr. Welch tells me, train up women physicians in our College of Physicians and Surgeons, yet at any rate we do train up that very indispensable person, the trained nurse, and in that respect I think we do our duty fairly well. I know that some physicians think that perhaps we train them a little too much.

I realize, I think, as fully as anybody who is only a layman can realize, that the physician who is going into a hospital finds a good deal of embarrassment very often, from having as an assistant an ignorant, awkward boy or girl—but that is something that is inevitable in the process of education. I realize that teaching is irksome, but I also realize that that is one of the duties that are laid upon the gentlemen of your profession. A member of my profession, Lord Bacon, said: " Every man is a debtor to his profession." Well, every profession exacts something different from those who are its members, and what medicine exacts from those who profess it seems to me to be education. Every one of you is bound to do what he can to educate the next generation of physicians. In one form or another, it seems to me, that upon you, much more than upon the members of other professions, is laid the teaching obligation; and as I said before, you are bound not only to teach students, you are bound not only to train nurses, but you are bound to train hospital trustees whenever you can get hold of them.

Now, gentlemen, I have preached my sermon. We are commemorating here the history of a hundred years. To imitate for a single moment the manners of a hundred years ago, I want to propose a sentiment, and it is this: "The second century of the College of Physicians and Surgeons—may it be as prosperous and as fertile as the first."

THE TOASTMASTER: Gentlemen, I want to ask your attention for a few minutes. Mr. Seth Low is with us tonight, and through an error on my part his name was not placed upon the list of speakers. Mr. Low has kindly consented to say a few words to you, and I take pleasure in introducing him to you. Mr. Low.

SPEECH OF SETH LOW

Mr. Chairman and gentlemen: Dr. Cheesman does himself an injustice in saying that the error was on his part. I received a very cordial invitation from him to be present, some weeks ago, and was under the impression that I had accepted it; but it seems that I worded myself conditionally as to my being in town at the time, and therefore I have been here tonight not as an uninvited guest, but as an unexpected guest and also an unexpected speaker. I want to thank the doctor for his courtesy and take the responsibility upon myself for the mistake. . . .

My first connection with medicine, if it can be dignified by that name, came during my business life. A very few years after my graduation from Columbia as a student, I was in my father's office and we were engaged in the importation of tea and silks from the Orient. I received an invitation from President Barnard, who was then editing Johnson's Encyclopedia, to write the article upon tea, not from the chemical or botanical side, but from the business side; and in doing that and looking up its early history, I found that tea is said by one authority, at any rate, to have been introduced into Europe somewhat in this fashion: In the early years of the seventeenth century the Dutch had heard that there was this herb in general use in China. In those days the Salernian school of physic dominated all thoughts on medical subjects, and that school taught the universal value of sage; so the Dutchman loaded a ship with sage and took it to China and exchanged it for the first cargo of tea. Therefore you see how directly medicine is connected with the introduction of the herb which comforts without intoxicating. I asked my father whether he believed, in his capacity of merchant, that the story was true, and his comment was that the Chinese had grown more sage since then.

I do not know but that my next connection with medicine may also be said to have had to do with our relations with China, for there I became aware of the practice of preventive medicine, as the Chinese have practiced it for many centuries. There a layman pays his physician not when he is sick, but when he is well; and if he has the misfortune to get sick, then the fee stops. That I call preventive medicine in its original form, because, in order to continue to receive the fee, the physician prevented all disease so far as possible.

And then, finally, I came into touch with medicine when I was translated, if that is the proper phrase, from an active business life to the head of Columbia University. I visited the College of Physicians and Surgeons, in the very early days of that new occupation, with my friend and classmate, Dr. George L. Peabody, and I asked him something about the conditions under which medicine was taught there, and when I understood them better, I said to him: "Can medicine, a science like that, be taught as it ought to be taught on a basis of being self-supporting?" and his reply was instantly, "No." From that question and that answer began the movement which resulted in the actual union which now exists between the College of Physicians and Surgeons and Columbia University. There had been, as you know, before that, a nominal connection, beginning in the year 1860, which resulted in this amusing condition of affairs: At the commencement of the College of Physicians and Surgeons, the diplomas were given by the dean of the medical faculty who was not the head of the University, and the Hippocratic oath was administered by the head of the University, who was not a physician. I suppose that was a case of topsy-turvydom that could not last forever.

During my incumbency of the presidency of Columbia, we received a visit from von Helmholtz, that great physicist, and I remember very well one thing that he said to the students of the College of Physicians and Surgeons in an address which he made to them. He said that it had always been his desire to be a physicist, and that he thought he never had passed a more unhappy day in his life than when, having finished his university career, obtained his degree, and supposing himself free to give himself to the study of physics, his father said to him: " Now, my son, I cannot support you, and you cannot live on physics; you must study medicine so as to have a profession by which you can support yourself." It seemed to him, he said, to postpone into the indefinite future the day when he could give himself to the study which was nearest his heart; but he added that that which seemed to him at the time the greatest possible misfortune had turned out to be the greatest possible good fortune; for if he had not understood physiology as well as physics, he never could have invented the ophthalmoscope. That seems to me to convey a most important lesson both to young men and to old; to the young fellow who seems to be turned out of the path that he wants to follow, I am sure it bears upon its face evidence of great encouragement, for we never can tell what value in years to come any new knowledge is going to have. And I think it also means something for the man in the actual practice of his profession. You take the headlight of a locomotive; it throws its beam along a narrow path and I suppose that that is the condition of going fastest and going farthest in one direction—that you stick to your chosen career and permit nothing to turn you from side to side. But if you think of the searchlight at the prow of a steamer and realize how that goes to one side and to another, you see why the steamer has the broader range. It does not go quite so fast, it may not go so far, but it goes to more parts of the world; it picks up a buoy here and a channel there; and the man in his profession who finds himself invited into traveling along the by-paths, not always sticking to the one narrow track that his profession calls for, may, by that very broadening of his view, by that very wandering into kindred sciences which the medical profession may lead him into, be enabled to accomplish a service for mankind that the man who sticks only to the narrow path may not be able to do. I suppose that, to succeed, one must have a perfectly definite aim, whatever his course in life; but I do think that one may be permitted, as he pursues that course, to use his searchlight a little and to follow it now and then.

When the medical faculty of the college was founded in 1767, the newspapers of Newport, Rhode Island, called upon their fellow citizens to bestir themselves, or the City of New York would surpass Newport as a commercial center. Even so late as the day when the College of Physicians and Surgeons was founded, 1807, this incident took place: The three brothers that founded the banking house of Brown Brothers & Company came to this country just about that time. The elder went to Philadelphia as the most important city; the second went to Baltimore as the next city in importance, and the youngest was assigned to New York. Now, think of the change that has come over this city in that hundred years! I think it is instructive, also, to reflect on what made the change. Today New York is so far the first as to be almost without a second, and the reason is because the Hudson River, and the flat land lying between the Hudson and the Great Lakes, by permitting the construction of the Erie Canal, permitted easy access into the interior of the continent. So that it is not so much New York's great harbor as it is that easy, early waterway into the heart of the continent which has made New York the dominating commercial city that it is. It is your great good fortune to be a medical school in the city of New York, a place towards which all roads, by land or water, lead in this Western World, as all roads, in the ancient world, led to Rome. Your membership, your students have come from one end of the country to the other, ever since the school was founded; and while you are here, a school in the city of New York, you are and you always have been a national medical school in the very broadest sense. I think that ought to be to every one of you a superb source of encouragement and inspiration.

Will you let me draw one other civic inference from your career? There are few places within the boundaries of the city of New York where I feel more moved, where I feel more sure, as Moses did, that I am standing on holy ground, than when I stand in the buildings of the College of Physicians and Surgeons in front of the tablet that records the names of the graduates of the P. and

S. who stuck to their posts in the cholera visitation of 1832 and died there. That is the very spirit that makes the great profession which you practice the noble profession that it is; that is the spirit that we of every walk in life in this great city want to get—the willingness to be true to duty whatever it may be, true to the very death. That is the spirit that we need from one corner of this land to the other; and I hope that whatever other lesson we may take away from this dinner, any one of us, we will not forget that the graduates of the College of Physicians and Surgeons stick to their posts and die there, if need be, in the day of danger.

THE TOASTMASTER: This, gentlemen, closes the dinner given in commemoration of the centennial anniversary of the granting of our charter. If any of you who are here attend the next centennial and send me word, I shall join you. Good-night.

METHODS AND SCOPE OF NATURAL OBJECT TEACHING IN THE MEDICAL SCHOOL*

BY

George S. Huntington

In August of this year, from the nineteenth to the twenty-third of the month, the Seventh International Zoological Congress, composed of representatives from all parts of the world, met in Boston, in the first gathering held on this side of the Atlantic. It is a matter of national satisfaction and pride that the place selected for the chief meeting could offer to the visitors, for inspection and study, a monument to the genius and foresight of one of the great men which this country has produced. The visit of the Congress to the Agassiz Museum, at Cambridge, constituted one of the most impressive and interesting events of the entire meeting, offering the outward and visible evidence of its founder's intention when he wrote "Study nature, not books."

We have met here today to formally open the one hundred and first academic session of this institution. The dean has greeted, in behalf of the school, the men who have assembled to take up another year of medical work, and has bid welcome to those who today begin their professional life. It has fallen to my lot to address you on some topic bearing on the work you are about to undertake and prosecute during the coming academic year. It seems to me that I can best fulfill this office if I draw your attention to the practical application, in your own individual cases, of the great educational principle which underlies the words of Agassiz, just quoted, "Study nature, not books." For in the very broadest and highest sense you are students of nature, and will remain such all through your professional life, if that life is to reach its full maturity and produce its best fruits. A consideration of the "Methods of natural object study" implies, it seems to me, in our particular case the analysis, on one hand, of the opportunities which this school offers to you, both in direct instruction and in facilities for self-study, and, on the other, calls for a clear understanding of your own individual attitude and obligation towards these opportunities, and a definite determination of the amount and direction of the effort which you are called upon to make in response to the stimulus received from the school at large.

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* Address delivered at the opening exercises of the College of Physicians and Surgeons, September 26, 1907.

Let us recognize at the very outset that the study of medicine, in spite of the complexity and versatility of the profession of today, resolves itself into the correct grasp of one natural object, the human body, but includes that object in all of its multiple relations to its environment. You are required to know man's morphology, and the biochemical and physiological conditions under which he exists normally. You will reason concerning his structural modifications and recognize in them adaptations to normal functions. You will be called upon to study the structural deviations produced by injury, disease or variation, and to interpret accordingly the resulting disturbances of function and of vital phenomena. Wherever you turn, no matter which of the many side-paths branching out from the main line of your profession you follow, everywhere will you meet with the necessity of close and accurate observation of organic conditions, structural and functional, chemical and physical, normal and aberrant. In every case you are called upon to accurately record and keenly interpret these observations, and to finally assemble them for broader interpretation and generalization in one of the many directions of modern professional activity. There exists no real difference in the method of observation and in the resultant mental processes leading to valid conclusions, no matter how widely divergent the actual objects of your study are. A chemical or bacteriological analysis, the accurate determination of the components of a brachial plexus, the effect of certain drugs or of the division or stimulation of certain nerves on vascular pressure, the examination of a fractured thigh, with its problems of muscular action and its physical causes of displacement and deformity, the correct mapping out of the area involved in a lobar pneumonia, all these, and many other conditions which you are required to meet in the course of your undergraduate study and your subsequent professional work, call for the examination of natural objects and for the establishment of conclusions based on the results of such examination. That is one of the meanings of the injunction "Study nature, not books." No amount of reading, no development of memory, no accumulation of facts gleaned from the observations of others—important as all these aids are in their proper place—can ever render you fit to cope with the actual problems you will encounter, unless your eye and hand and ear have been so trained by practical experience that the impressions received will direct your mental processes into the right channels and enable you to formulate correct and complete conclusions.

This is the problem which presents itself to the school at the outset in its endeavor to teach properly and successfully. In the real meaning of this problem it is not primarily a question of imparting to you an orderly collection of abstract morphological, chemical, clinical or physiological facts, it is the vastly more fundamental and vital demand for methods which will teach you *how* to study nature, how to train your perceptions and your way of receiving and interpreting them in a direction and to a degree which will fit you after entering upon your active professional life to carry on the ceaseless study which that life demands, to advance knowledge on your own account, to intelligently keep on the crest of the wave produced by the efforts of others. Now, from the practical educational standpoint, there are two conditions of importance which concern you personally.

In the first place there is the well-recognized individual difference in the rapidity, ease and correctness with which mechanical conditions are appreciated, retained and correlated in the mental picture of the whole. You are called upon, for instance, at the very outset of your course to become thoroughly and intimately acquainted with the general organization and detailed structure of the machine, whose functional activity is to become your next main theme of study. These great primary topics mastered, you are called upon to consider the various conditions producing disability of this complex physical mechanism, the resulting loss of function and misdirection of energy, and the proper methods of repair and restoration. In a general way your educational problems are similar to those encountered by men entering upon the study of mechanical engineering, with one important difference: your difficulties are vastly augmented by the fact that your machine is of infinite complexity and your structural unit not the constant and rigid molecule of metal, but the vital and ever-changing animal cell. Moreover, there are no spare parts to your machine, nor are they interchangeable. Your mechanical engineer can replace a cracked crank-shaft or a defective cylinder-head with a duplicate of the same casting at his leisure. You are required to keep your engine intact in its vital parts and to make your repairs while it is performing the absolutely necessary work. It is true that your welding and riveting and splicing and oiling of this complicated machine is constantly becoming more skilful, more daring, more careful and complete. Procedures that a few decades ago would have been regarded as visionary dreams are now almost daily occurrences in ordinary medical and surgical practice. The serous membranes no longer bear the stamp of "*noli me tangere*." The abdominal viscera have taken kindly to almost any kind of readjustment. The surgical plumber of former days has become the expert sanitary engineer of the intestinal canal, cuts out defective pipe, introduces traps, anastomoses, transplants with a thoroughness and a degree of success which augurs much for the future. The range of mechanical relief and cure in the field of the central nervous system is constantly enlarging—even the thorax is becoming approachable—and it would take a bold prophet to predict where the advance will ultimately be arrested. When we see, as we did, *e. g.*, last year in the laboratory of experimental surgery, kidneys transplanted from one to the other animal, and sections of one abdominal aorta replacing excised portions in another individual, our faith in the possibility of almost unlimited progress must remain very firm. You are among the agents who will be responsible for your share in this advance, and you must realize that it calls for constantly increased requirements on your part in skill, deftness, rapidity of action and judgment, and complete knowledge of your subject. These are the qualities which your course in the medical school should help you to develop and foster, if it is to answer its highest purpose. Now the task of organizing instruction in natural object study with this purpose in view for relatively large groups of men, meets, as I have said, with the personal equation of the student, with the variation in the receptive power and rapidity of assimilation of the individual. It is a very common observation that among men of various occupations and equal degrees of mentality, the faculty of correctly grasping space-conditions and mechanical concepts varies greatly. We speak of it as the "mathematical or mechanical mind." You might suppose the case, we will say, of two lawyers, equally brilliant, equally eloquent, equally keen and successful in their profession. Yet the one might very well exhibit great mechanical ability, be skilful with his hands, capable of doing well various kinds of mechanical work, deft in the use of tools and in his understanding of complicated mechanical conditions, while his colleague, lacking all these qualities, might compensate by great linguistic, musical, or artistic ability. There is no lack of mental activity or brain power in either case, simply a question of the mental type, of the direction of mental development, of the kind and acuteness of the perceptions. Now this same difference is to be observed, to a lesser degree but still productive of results, in any group of men attracted by similar mental trends to the study of a profession like medicine. To some the gaining of correct conceptions of form, of space-dimensions and relations, is intrinsically more difficult and requires more time and effort than to others, and this entirely independent of the retentive quality of memory and the permanence of impressions once acquired. It is quite evident that men of this type devote more time to direct object-study, and the school must make provision to enable them to do this in the best and most productive way.

In the second place, in any group of men gathered from various points for the common purpose of professional study, the individuals will differ in the kind and amount of special preliminary training received in anticipation of the work to follow. Many of you have enjoyed the advantage of the courses in chemistry, histology, embryology, zoology and general biology offered by the undergraduate institutions. Others among you have not had access to these opportunities. Hence the courses of this school must be organized and administered to meet both conditions.

Let me take my own department as offering ample material for illustration, since your accurate knowledge of man's own structure is, of course, a prerequisite to all of your succeeding work, no matter how highly specialized it may become, and the same principles are involved in all other departments. This will, at the same time, enable us to estimate correctly the value and place in the educational plan of the text-book, lecture, recitation, conference, collateral reading, and other exercises of similar didactic character.

The great cardinal principle of sound natural object teaching and learning lies in the proper use of the object itself, in anatomy, therefore, of the human body. We are called upon to consider that body from all viewpoints, developmental and historical, structural and functional. We are bound to enlarge the scope of such study and enhance its value by all available collateral means bearing on the subject. We must treat not only of the bare morphological facts of normal structure, but interpret these facts in their functional adaptation to man's present environment, trace their phylogenetic history and man's relation in the general zoological series, value correctly the occurrence of human variants and interpret their significance understandingly. In short, our task is to afford the opportunity of gaining that complete insight into man's organization and its meaning which will enable you to take up the other problems depending thereon with a clear view and a well-defined purpose. In this endeavor the text-book, recitation, lecture, collateral reading and all other forms of didactic exercise occupy a definite, though in one sense, a subordinate position. They serve to furnish you with the systematic guide, to give the framework into which you are to fit the observations which your personal study of the object itself will yield. Theoretically you might reply, if study of the natural object itself is the only fruitful path to knowledge, that then the best results in anatomy would be attained by locking a man in a room with a cadaver, a knife, saw, chisel, and mallet, and telling him to find out as much as he can by personal observation in a given time. As a matter of fact, a plan somewhat approaching this has been suggested and practiced. There are two valid objections to instruction of this kind. In the first place, it is adapted to only a very small percentage of the average class, the minority above referred to endowed naturally with very keen powers of mechanical observation and construction. Secondly, it requires an inordinate amount of time, which in the press of modern medical education and the constantly increasing demands of the graded course of study cannot be spared.

The plan, therefore, which best seems to conform to the practical conditions confronting us, is to offer a course adapted to the greatest number of students, and as economical as possible in its time demand, but sufficiently elastic to meet the varying individual requirements above referred to—a combination of practical personal work with a framework of systematic instruction to guide and direct this work to the best advantage.

The practical part of the instruction in anatomy consists, as you know, of work performed by the student individually in the courses of the dissecting-room. The main purpose here is to afford opportunity of rehearsing the didactic instruction by personal direct examination of the object, to corroborate and control mental concepts already acquired, to fix definitely impressions of structural relations by demonstration in the three dimensions of space. Incidentally, the technical and manual training in the use of the proper instruments is of value. Beyond this, the school offers, as complementary to both the didactic instruction and the practical individual laboratory work, under the caption of demonstrations and conferences, a mixed exercise in which a certain amount of systematic instruction is combined with the opportunity of directly examining and studying the natural object. This is the feature of the work to which I especially desire to direct your attention, because the proper utilization of the opportunities here offered will prove of distinct benefit to you, while at the same time it is easy to misunderstand the real purpose of the courses and to fail in attaining the best results from attending them. And remember that, while I am quoting the anatomical curriculum as an example, the same principle underlies the corresponding instruction offered by other departments. It makes no difference whether the object of your study is a selected series of morphological specimens or a correlated group of clinical cases. In both instances you are called upon to use your senses, to train your perceptive qualities, to gain definite impressions by direct personal observation and examination of the organic conditions presented to you. Hence in these exercises your chief interest should center in the material. The didactic instruction explanatory of and accompanying its presentation, is merely designed to direct your attention to the salient points of the demonstration without loss of time. The result, if successful, should be the acquisition, on your part, of a definite mental impression, which you will permanently retain as actual knowledge, which will be vividly recalled when in your text-books and in your general reading you encounter descriptions and illustrations of the topics involved, or when in your practical work you meet with identical or cognate and related conditions.

Now it is at this point, in this borderland between didactic and practical instruction, that the school can and should offer the greatest amount of direct help to you. It is perfectly sure that novel, unfamiliar, and perhaps unexpected structural, physiological or clinical conditions cannot always be readily grasped, entirely mastered and definitely retained during the course of an exercise addressed to a relatively large number of men, and covering an extensive field. The time allotted to each individual is limited, his examination of the material necessarily somewhat hurried, and he frequently fails in obtaining complete results. This is our constant experience in the anatomical courses, and we have for a number of years been actively engaged in strengthening this weak point in the course of study by the development of the absolutely necessary equipment for complementary self-study. This is where, in morphology, the museum in the modern sense appears as a most important educational factor, where in the clinical branches the assignment of students to definite terms in the hospital wards and out-patient departments, as clerks and surgical dressers, rounds out the educational plan of the general course of study.

Let me briefly outline the purpose of this form of instruction from your standpoint, because it is often misunderstood. The lecture, demonstration, recitation or other exercise has carried you over certain definite ground. As many side-lights as possible have been perhaps thrown on the subject, but the impression remaining with you may be vague, in some details. Some important links may have escaped your attention entirely. The chain may be incomplete. Now is the time for you to round out this particular topic by repeated, leisurely, personal observation of the material itself, comparing it directly with your text-book accounts or notes. This in anatomy is the real function of the museum, properly organized. In it should be placed carefully selected and restricted preparations, serially arranged, carefully labelled, and accompanied by brief but sufficiently explicit descriptive tablets, accentuating the important points, and indicating the purpose of the preparation and its place in the series. This material should be made accessible, and proper time should be allowed in the arrangement of the course for its systematic use. It should represent the student's most valuable library of reference at first hand, in which he can control, if necessary correct, and firmly fix in his mind the impressions he has received in his other courses. Of course the acquisition of equipment of this kind is a matter of gradual growth —it exists nowhere ready made—and its instalment in a suitable locality, properly arranged, requires considerable time. But as far as such equipment exists here, and to the extent to which we hope to increase it during the year, I trust that you will use it as perhaps the most valuable single aid which the school is able to offer you in the prosecution of your work. But you will have to use it understandingly, with a very definite conception of what it is to yield and with a very definite purpose, in order to obtain its benefits. Nothing is a greater waste of time than the aimless wandering through a collection of natural objects, a vague and purposeless inspection of things which merely rouse a general curiosity. Each series should mean a *book* to you, each preparation a *page,* and you should so read and study that you know it by heart. For your best purposes, Agassiz's demand, "Study nature, not books" might well be enlarged to read "Study nature, and books in the light and by the aid of nature." Thus only, as far as a school can do it, will you complete a satisfactory cycle of study in any given subject.

And now, in closing, let me ask you to consider just one more feature of this method of study, because it is one which so constantly intrudes itself that it is well to deal with it in this connection. You are members of a very arduous profession. The work put upon you as medical students is severe and most exacting, and it is natural to question whether much of it is not unnecessary as you are carried hour by hour throughout a long day from one course to another. After graduation you will undoubtedly enter and further develop in some one of the many departments into which the vast field of general medicine has of necessity become subdivided in the course of its scientific progress. Much, very much, of the information which you have acquired during your undergraduate course will be of little, if any, direct value to you. To the successful practitioner of midwifery the course and relations of the ulnar artery are matters of slight importance, nor will a detailed knowledge of the biliary and pancreatic ducts in their surgical import, be at all necessary to a specialist who confines himself to diseases of the throat and ear. But let me ask you to bear in this connection these things in mind:

1. Few, if any of you, can foretell into which particular path of professional activity inclination and opportunity will eventually lead you.

2. To thoroughly understand a whole knowledge of the components is an absolute prerequisite. A plumber's apprentice can probably wipe a water joint better than most professors of chemistry, but it would be a poor sanitary engineer whose accomplishments never went beyond that point.

3. Moreover, in the mutual interlocking of the multiple chemical, structural and physiological factors which go to make up the complex animal body, the correlation and interdependence of the individual parts is constantly becoming a more and more important matter as our knowledge advances. No element, however small and insignificant it may appear taken by itself, can safely be disregarded. I only need remind you of the parabranchial bodies, hardly considered worthy of detailed study or description a few

years ago, yet today occupying an important position in the pathology and therapy of tetany.

4. Lastly, and most importantly, the value of the technical training in observation cannot be overestimated. The deftness of touch, the manual dexterity, the acuteness of visual and aural perceptions, the ability to formulate correct deductions and general conclusions, acquired by the close application to the study of natural objects, will over and over pay for the energy expended, in whatever special branch of scientific work they are to be employed by you in the future, and so I say to you that you should not grudge the time or effort required in mastering the details of any of your courses, but regard them as proper preparation for your future successful life's work.

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